Bureau for Humanitarian Response

Office of US Foreign Disaster Assistance

Results Review and Resource Request

FY 2002

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Please Note:

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ACRONYMS

AAAS	American Association for the Advancement of Science
ACF	Action Contre la Faim
ACROSS	Association of Christian Resource Organizations Serving Sudan
ADRA	Adventist Development & Relief Agency
AFR/SD	Africa Bureau/Sustainable Development
AFR/WA	Africa Bureau/West Africa
AHA	Auxiliary Hospital Attendants
AICF/F	Action International Contre La Faim/France
AIS	Association of Seismic Engineering
ARC	American Refugee Committee
BPHC	Basic Public Health Center
BRCS	Burundi Red Cross Society
CAD	Children Aid Direct
CAHWs	Community Animal Health Workers
CARE	Cooperative American Relief Everywhere
CARITAS	International Conference of Catholic Churches
CBHW	Community-Based Health Workers
CDC	Center for Disease Control (US Dept. of Health and Human Services)
CDMP	Caribbean Disaster Mitigation Project
CIP	Climate Information Project
CMA	Christian Mission Aid
CO_2	Carbon Dioxide
CPHA	Temporary Housing Committees (Honduras)
CRED	Center for Research on the Epidemiology of Disasters
CRS	Catholic Relief Service
DART	Disaster Assistance Response Team
DASP	Disaster Assistance Support Program
DMTP	Disaster Management Training Program
DOW	Doctors of the World
DRD	Disaster Response Division
DRM	Disaster Response and Mitigation
DROC	Democratic Republic of Congo
ECHO	European Community Humanitarian Office
EMDAT	Emergency Events/Disaster Database
FAA	Foreign Assistance Act
FEMA	Federal Emergency Management Agency
FEWS	Famine Early Warning System
FFP-ER	Food for Peace – Emergency Response
FHI	Food for the Hungry International
FHIA	Honduras Agricultural Research Foundation
G/EGAD/AFS	Global Bureau/Center for Economic Growth and Agricultural Development/Office of Agriculture and Food Security
G/ENV/ENR	Global Bureau/Center for Environment/Office of Environment and Natural Resources

G/FANTA	Global Bureau/Food, Agriculture & Nutrition Technical Assistance
G/HCD	Global Bureau/Human Capacity Development
GOS	Government of Sudan
GOT	Government of Turkey
GVC	Gruppo Di Volantorio Civile
IARCs	International Agricultural Research Centers
IAS	International Aid Sweden
ICDDR/B	International Center for Diarrhoeal Disease Research/Bangladesh
ICIPE	International Center for Insect Physiology and Ecology
ICMC	International Catholic Migration Commission
ICRC	International Committee of the Red Cross
IDA	International Disaster Account
IDNDR	International Decade for Natural Disaster Reduction
IDPs	Internally Displaced People
IFRC	International Federation of Red Cross & Red Crescent
IMC	International Medical Corps
IOM	International Office for Migration
IR	Intermediate Result
IRC	International Rescue Committee
IRG	International Resources Group
IRI	International Research Institute
KFOR	UN Kosovo Force
KLA	Kosovar Liberation Army
LAC	Latin America & the Caribbean
LWR	Lutheran World Relief
MCI	Mercy Corp International
MEDAIR	Medical Environmental Development With Air Assistance
MEDIC	Medical Emergency Development International Committee
MERLIN	Medical Emergency Relief International
MRE	Ready to Eat
MSF	Medicins Sans Frontiers
MST	Ministry of Science & Technology
NASAR	National Agency for Search & Rescue
NATO	North Atlantic Treaty Organization
NGOs	Non-Governmental Organizations
NOA	New Obligating Authority
NOAA	National Oceanic and Atmospheric Administration
NPA	Norwegian Peoples Aid
OAS	Organization of American States
OE	Operating Expense
OFDA	Office of US Foreign Disaster Assistance
OLS	Operation Lifeline Sudan
OTI	Office of Transition Initiatives
PACIS	Pan American Climate Information System
PAHO	Pan American Health Organization
PARC-VAC	Pan-African Rinderpest Campaign - Vaccination

PASA	Participating Agency Service Agreement
PHCCs	Primary Health Care Centers
PHCUs	Primary Health Care Units
PMP	Prevention, Mitigation, Preparedness
PMPP	Prevention, Mitigation, Preparedness and Planning
PVOs	Private Voluntary Organizations
RANET	New Radio and Internet technology for Communication of Weather and Climate Information to Rural Communities for Sustainable Development in Africa
REDSO/ESA	Regional Economic Development Support Organization/Eastern and Southern Africa
RMS	Resource Management Services
RSSA	Resources Support Services Agreement
SAR	Search and Rescue
SCF	Save the Children Fund
SO	Strategic Objective
SPAWAR	Space and Warfare Command Center
SPHERE	e.g., the SPHERE Project/Humanitarian Charter and Minimum Standards in Disaster Response
TAF	The Asia Foundation
TBA	Traditional Birth Attendants
UN/WFP	United Nations/World Food Program
UNDAC	United Nations Disaster Assistance Coordination
UNDP	United Nations Development Program
UNFAO	United Nations Food and Agriculture Organization
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations International Children's Education Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNOPS	United nations Office for Project Services
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USDHs	United States Direct Hires
USG	United States Government
USGS	United States Geological Survey
VDAP	Volcano Disaster Assistance Program
VSF	Veterinaries Sans Frontieres
WHO	World Health Organization
WV	World Vision

PART I. Overview and Factors Affecting Program Performance

Overview

The Office of US Foreign Disaster Assistance responded to 65 declared disasters in more than 63 countries in FY 1999. During this period, OFDA responded to 17 complex emergencies and 41 natural disasters, including floods, hurricanes, earthquakes, volcanic eruptions, and cyclones. In addition, the Office responded to 7 human-caused and other disasters, including bombings, explosions, fires and disease outbreaks. Under its Strategic Objective 2, OFDA continued to strengthen regional, national and local disaster prevention, mitigation and preparedness capacities of regions and countries at risk of hydro-meteorological, seismic, volcanic and industrial and technological hazards.

In FY 1999, OFDA obligated $294.9 million to fulfill its mandate of saving lives and reducing human suffering. Of this amount, $292.6 is OFDA's share of the International Disaster Account (IDA) budget. The balance, about $2.3 million, is operating expenses (OE) and is applied to salaries, wages and benefits of United States Direct Hires (USDHs), travel and other expenses. About 66 percent of OFDA's portion of the IDA budget was obligated for complex emergency response and mitigation, while 20 percent was obligated to respond to and mitigate the effects of natural and human-caused disasters. The balance was obligated for post-disaster rehabilitative activities and longer-term disaster response and mitigation capacity-building in countries at greatest risk of disasters.

The ethnic conflict in Kosovo was the most expensive complex emergency in FY 1999, with 1.5 million Kosovo-Albanians affected. OFDA obligated more than $115.8 million for the provision of emergency health, medical, nutrition, water, sanitation, shelter, agriculture, non-food distribution, relief-coordination, transportation and logistics support for this emergency. The amount obligated for the Kosovo crisis is a little over 60 percent of total FY 1999 obligations for complex emergency response and mitigation. Sudan ($24.4 million), Sierra Leone ($13.9 million), Burundi ($9.4 million) and Angola ($8.1 million) constitute the second tier of complex emergencies. These four countries plus the Balkan crisis accounted for 88.5 percent of the total amount obligated by OFDA for complex emergency response in FY 1999.

With regard to OFDA support for natural disaster response and mitigation, Hurricane Mitch, which caused unprecedented destruction in Central America, required more OFDA funding than any other natural disaster in FY 1999. OFDA obligated more than $39 million to provide emergency assistance to those affected by the hurricane.

Hurricane Mitch caused the greatest damage in Honduras, Nicaragua, El Salvador and Guatemala. The total of direct damage to housing, other infrastructure, and crops was estimated at more than $2 billion for Honduras, $1.5 billion for Nicaragua, and $1.0 billion each for Guatemala and El Salvador. In addition, more than 9,000 people perished, another 10,000 were missing and over three million people were left

homeless or were forced to evacuate. In Nicaragua, estimated losses in rice, corn, bean, coffee and vegetable crops range from one-third to two-thirds of a normal year's harvest. Social infrastructure suffered extensive damage as well; over a third of Honduras' 10,000 schools were damaged or destroyed, and many hospitals and health clinics were likewise affected. More than 350 bridges were destroyed. The combination of the loss of these health care facilities, a lack of access to surviving lifeline facilities, and pools of standing, contaminated water could have created or exacerbated public health emergencies in Nicaragua, but did not. A rapid response and highly effective preventive measures taken by OFDA, PAHO and the public health systems prevented the occurrence of any major disease outbreaks.

Summary of progress

Overall, OFDA continues to achieve its objective of meeting the emergency needs of targeted crisis-affected populations. Disaster preparedness, mitigation and prevention (PMP) interventions are now applied to natural and human-made disasters as well as to complex emergency responses. Host country, local community and household-level capacities to manage and cope with crises continue to be enhanced through OFDA programs.

In coordination with other donors and humanitarian agencies, OFDA provided emergency assistance to millions of crisis-affected people throughout the world. OFDA programs first target the most vulnerable groups, which generally include severely and moderately malnourished children and adults, child and women-headed households, the disabled, and the elderly with no social support systems.

OFDA-supported emergency assistance included search and rescue operations, emergency health and medical services, and therapeutic and supplemental feeding for severely and moderately malnourished children and adults. It also included provision of clean water, appropriate sanitation facilities, shelter, blankets, and seeds and tools distribution to strengthen the food security of vulnerable populations. The breakdown of direct disaster response and mitigation funding by sector is as follows.

Table 1.1 FY 1999 Obligation By Sector

Sector	$ Amount
Search & Rescue	9,268,876
Emergency Health & Nutrition	45,266,188
Water & Sanitation	28,638,718
Shelter, Clothing & Survival Kits	53,533,450
Food Security	55,912,456
Infrastructure Rehabilitation	9,805,475
Resettlement & Reintegration of IDPs	617,239
Capacity Building	11,996,368
General Relief	36,848,461
Total	251,892,231

OFDA responds to human-caused, natural, and complex emergencies through its many implementing partners. US private and voluntary organizations (PVOs) as well as international and local non-governmental organizations (NGOs) play a critical role in carrying out OFDA's mandate and mission. OFDA funded more than 29 US-PVOs, 16 non-US NGOs, and six United Nations agencies to respond to declared disasters in FY 1999. Over 123 new grants were reviewed and funded, 47 existing grants were amended, and 23 grants were extended.

In addition, OFDA coordinated and collaborated with several United States Government (USG) entities. The Office worked very closely with the Department of Defense (DOD), the United States Department of Agriculture (USDA), the United States Geological Survey (USGS), the Centers for Disease Control (CDC), the United States Public Health Service, The National Oceanic and Atmospheric Administration (NOAA) and USAID field missions and bureaus. The Fairfax County, Virginia and Miami-Dade, Florida Search and Rescue teams were also an integral part of OFDA's disaster response teams.

A list of OFDA's implementing partners is provided in Annex 1. Table 1.2 gives a breakdown of IDA resources committed by type of implementing partner. In addition to emergency commodities supplied through grants to implementing partners, OFDA directly supplied plastic sheeting for shelter, water bladders, water containers and water purification systems, hygiene kits, blankets, tents, humanitarian daily rations (HDRs) and other survival kits, at a cost of more than $ 46.5 million.

Table 1.2: FY 199 Obligation by Type of Implementing Partner

Vendor	FY1999 Obligation	% Distribution
US PVOs	$ 126,435,534	53%
Non-US NGOs	18,735,202	8%
UN Agencies	24,360,601	10%
Other Int'l Organizations	3,396,433	1%
USG Entities	51,325,142	22%
Other US Entities	12,260,589	5%
Total	$ 236,513,501	100%

A review of selected implementing partner grant proposals and performance reports confirms that OFDA-supported activities continue to meet the objectives of saving lives and reducing human suffering. Where it can be verified and unless prevented by insecurity or isolation, 100 percent of targeted vulnerable populations receive emergency assistance that actually reduces, or contributes to the reduction of their suffering.

Among OFDA's most significant accomplishments in recent years, but especially during FY 1999, has been the effective application of prevention, mitigation and preparedness interventions with relief activities. The increased incorporation of PMP interventions in Sudan, for example, has effectively reduced the cost of relief assistance and the vulnerability of the targeted population. Also in Sudan, agricultural

assistance is slowly reducing community dependence on relief. In FY 1999, food rations were reduced by as much as 50% to 70% in some communities, as IDP populations were able to produce or acquire food themselves. Other such interventions include the distribution of seeds and tools and the provision of extension services and animal restocking, coupled with the targeting of general emergency assistance to the most destitute. Local production of quality planting seeds and the introduction of ox-drawn plows have dramatically increased agricultural productivity. Any surplus harvest is bought by relief agencies for distribution in food insecure sectors, or may be sold to traders in food deficit markets. Rehabilitative activities such as road repair and the replacement of barter trade with cash transactions have further accelerated economic recovery and self-reliance of internally displaced populations in this protracted, complex emergency.

The experiences of IDP farmers such as David Aktar in Southern Sudan demonstrate the progress OFDA has made on its strategic objectives. In 1997, David participated in an OFDA-supported program which provided training on farming systems, seeds, and ox-drawn plowing using an "Ethiopic-type" plow. Although 1997 was a drought year, through using his newly acquired skills and ox-drawn plow, David was able to harvest twice as much as his non-program participant neighbors, in part because he was able to plow and plant a larger area. In 1999, his nephew rented the plow and trained bulls for other farmers for about $25 per acre. This enterprising nephew earned enough income in two months to pay for his secondary education in Uganda.

In Tampura County in Southern Sudan, the introduction of tsetse fly traps designed by Enos Mpanga of the International Centre for Insect Physiology and Entomology (ICIPE) helped reduce the incidence of sleeping sickness. The traps, when suspended on lower branches of trees near fishing points, wells and village paths, have been successful in reducing the tsetse fly population. As reported by CARE, the incidence of sleeping sickness dropped from 30% in 1998 to less than 5% in 1999. Local women make the traps, and the community has assumed the responsibility of trapping and destroying the tsetse fly.

In Sierra Leone, OFDA's flexible programming saved the lives and reduced the suffering of many IDPs in the post-January 1999 rebel invasion. NGOs were authorized to redirect funds from ongoing activities to new activities that addressed critical emergency needs of the population. Through this means, funds for therapeutic and supplementary feeding, emergency water and sanitation and emergency health programs became available very quickly and were put to immediate use.

In volcano-rich Ecuador, OFDA's technical support for volcano monitoring contributed to the Government of Ecuador's ability to plan for response, issue warnings, inform its citizens of risks they face, and make difficult decisions regarding evacuations. Prior to the eruption of Tungurahua Volcano in September 1999, authorities evacuated more than 25,000 people from the volcano impact zone, averting loss of human lives and injuries. Additional success stories that demonstrate progress on OFDA's objectives are presented in Annex 2.

OFDA's strategic objectives contribute directly to the achievement of BHR's goals and objectives. By meeting the critical emergency needs of disaster victims, OFDA contributes to BHR's mandate of saving lives, alleviating suffering and reducing economic and social impacts of disasters within the constraint of scarce resources.

Factors Influencing Program Performance

The unpredictability and sudden recurrence of ethnic and military conflicts in complex emergencies have been the most disruptive factors in assistance delivery. For example, Government of Sudan (GOS) air raids into the Juba mountains and surrounding towns disrupted the provision of emergency assistance to affected populations. The GOS ban on relief flights in February through April 1999 required that relief workers use ground transportation. Extremely treacherous road conditions further contributed to the delayed arrival of relief commodities. In Burundi, repeated attacks by rebel forces and the Government of Burundi's decision to force citizens into regroupment camps interrupted relief efforts, brought further disruption to people's lives and caused more suffering. In Afghanistan, renewed fighting between the Taliban and the United Front led to the internal displacement of over 200,000 people.

Requested Changes to OFDA's Results Framework

In order to enhance and sustain the effectiveness of OFDA-supported programs, OFDA has reformulated its emergency response team mechanisms and fine-tuned its strategic approach to disaster response and mitigation. Discussions are underway to merge what used to be OFDA's Disaster Response Division (DRD) and Prevention, Mitigation, Preparedness and Planning (PMPP) Division into a single Disaster Response and Mitigation (DRM) Division. This potential reorganization would ensure that relief activities lead to quick recovery, greater self-reliance and reduced vulnerability of at-risk populations during and immediately following disasters.

As a reflection of the Office's operational shift toward merging relief and mitigation activities, OFDA proposes an elimination of Strategic Objective 2, subsuming the associated intermediate results under Strategic Objective 1.

This reformulation could occur as follows: OFDA will retain Strategic Objective 1 as currently articulated. Strategic Objective 1(SO1), *"Critical needs met of targeted vulnerable groups in emergency situations"*, directly serves OFDA's mandate of saving lives and reducing the suffering of people affected by human-caused, natural and complex emergencies. In the revised framework, achievement of SO1 will be buttressed by the following three intermediate results.

- Intermediate Result 1 (IR1), *"Improved targeting of emergency assistance to the most vulnerable groups"*.
- Intermediate Result 2 (IR2), *"Emergency assistance, meeting recognized standards, received by disaster victims in a timely manner"*.

- Intermediate Result 3 (IR3*), "Capacities for livelihoods protected and/or restored"*.

IR1 reflects OFDA's strategic approach of directing emergency assistance to the most vulnerable disaster victims first. IR2 underscores OFDA's deliberate efforts to reduce the loss of human lives and suffering by ensuring that appropriate emergency assistance reaches disaster victims as quickly as possible. IR3 relates to OFDA's mandate of reducing human suffering by providing emergency assistance in a manner that protects disaster victims' livelihoods, and strengthens local capacities and traditional coping mechanisms in order to reduce or eliminate dependency on relief assistance and vulnerability to recurring disasters. While these three intermediate results incorporate strategic elements of planning, preparedness, mitigation and prevention implied in Strategic Objective No. 2 under the old framework, they are more apparent in IR3 in the new framework. Therefore, SO 2 will be dropped and the SO2 strategic elements will be reflected as sub-IRs supporting achievements of IR1, IR2 and IR3.

Rehabilitative activities implemented during the response and mitigation phase of a crisis prevent further deterioration of conditions and enable disaster victims to return to normalcy and self-reliance more quickly. In some cases these activities reduce vulnerability to recurring natural disasters. The revised framework is discussed further in Annex 3.

PART II. Results Review by Strategic Objective

Strategic Objective No. 1

Strategic Objective No. 1: Critical needs met of targeted vulnerable groups in emergency situations.

OFDA's performance on SO1 is on-track. Performance of Strategic Objective No.1 is measured using the following performance indicator:

> **Performance Indicator No. 1:** Percent of disaster response grants where an acceptable proportion of the targeted vulnerable population's critical needs have been met.

Performance indicator No. 1 is evaluated on the basis of whether or not OFDA's implementing partners have achieved their grant objectives. By meeting emergency needs of their respective target populations, implementing partners reduce mortality, morbidity and human suffering in those targeted groups. For all disaster mitigation and responses, OFDA provides assistance to meet the critical needs of 100 percent of the targeted vulnerable population. Thus, the expected performance target for the indicator is 100 percent.

In FY 1999, OFDA's implementing partners' performance reports reveal that they have met their grant objectives. In some cases, implementing partners have indicated that assistance to some vulnerable groups was interrupted or delayed because they could not be reached due to eruption of fighting, isolation by flooding or other catastrophes. But even in these cases, relief supplies were airdropped or were otherwise successfully delivered once the location of disaster victims was confirmed.

Despite the magnitude of calamities caused by Hurricane Mitch and the Kosovo crisis, OFDA, in collaboration with other humanitarian agencies, saved the lives of thousands of vulnerable people and reduced the suffering of millions of people. OFDA's implementing partners continue to learn and apply improved disaster response and mitigation strategies. Many implementing partners now adhere to the OFDA-supported SPHERE minimum service standards and protocols.

OFDA-supported activities have helped reduce vulnerability to seismic, volcanic and hydro-meteorological events worldwide. In Colombia, Ecuador and Peru, host government entities and local communities have successfully developed participatory vulnerability reduction action plans. These plans identify vulnerable geographic areas and a range of earthquake-resistant construction designs and technologies. Policies on land use and building codes have been articulated, ratified and are beginning to be rigorously enforced.

Prospects for future progress on SO1 is expected to be better.
OFDA has several new and existing initiatives underway to reduce the impact of hydro-meteorological hazards (e.g., drought, floods and storms), seismic hazards (e.g., earthquakes and volcanic eruptions) and urban and industrial hazards. OFDA is collaborating, coordinating and working with several USG agencies (USGS, NOAA, CDC, and the USDA) to enhance forecasting, early warning, vulnerability mapping and targeting, and to identify and develop vulnerability-reducing interventions. It also collaborates with or funds International Agricultural Research Centers (IARCs) selected US and host-country universities, UN Agencies, e.g., WFP's Vulnerability Assessment Mapping, and other international organizations.

OFDA continues to strengthen disaster mitigation and response capacities of host government entities, local communities and NGO implementing partners through training and transfer of skills and equipment. OFDA staff skills are continually improved through enhanced training. In addition, OFDA complements its skill pool through services acquired through Resources Support Service Agreements (RSSAs), Participating Agency Service Agreements (PASAs), and American Association for the Advancement of Science (AAAS) Fellows.

While disruptive events such as earthquakes, droughts, floods or wars cannot be prevented, OFDA supports multi-pronged approaches to prevent casualties and losses. For example, support for measles and polio vaccinations during or immediately following a disaster has reduced the mortality and morbidity of children. OFDA-supported climate, seismic and volcanic vulnerability assessments and mapping has helped reduce the loss of lives and property. These vulnerability maps are used to develop national-level land use policies and building codes for homes, roads and bridges. Increased application of improved structural technology in housing, drainage structures and flood control structures, flood plain management, and development and distribution to farmers of drought and disease resistant high-yield, short-maturity cultivars in crisis-prone countries have helped to minimize both immediate and future impacts of disasters.

Immediately following the January 25, 1999 earthquake in Colombia, OFDA supported an activity by the Colombian Association of Seismic Engineering (AIS) that classified areas of varying seismic vulnerability and established a range of earthquake-resistant building design models for new and damaged structures. Following Hurricane Mitch, where appropriate and accepted, OFDA supported efforts to relocate villages, roads and bridges to less vulnerable sites.

Longer-term approaches to disaster management have been of particular value in protracted, complex emergencies. Increasingly, OFDA-funded interventions are designed to meet the immediate needs of affected populations while safeguarding livelihoods and maintaining the economic and agricultural viability of affected communities. The aim is to minimize dependence on emergency relief and maximize the percentage of basic life-support needs that can be met by disaster victims themselves.

Strategic Objective No. 2

Strategic Objective No.2: Increased adoption of mitigation measures in countries at greatest risk of natural and human-caused disasters.

OFDA's performance on SO2 is on-track. Progress toward SO2 is measured in terms of the following performance indicator:

> **Performance Indicator No.1:** Percent of OFDA-targeted at-risk countries developing, adopting and practicing national and local disaster mitigation and preparedness programs.

There are more than 1,500 potentially active volcanoes that threaten the lives and properties of millions of people around the world. More than 100 cities inhabited by over 200 million people are at risk from earthquakes. Tsunamis, hurricanes, and cyclones have killed thousands of people over the years and have resulted in economic and property losses estimated in the billions of dollars. Unsafe building structures and industrial and chemical hazards threaten the lives of millions of urban dwellers in middle and lower income countries today.

In 1990, OFDA identified 66 countries at greatest risk of natural and human-caused disasters. Of these, 44 countries had some level of disaster response and mitigation capability, partly due to training and technical assistance received from OFDA. In the 1980's and early 1990s, OFDA's disaster prevention, mitigation and preparedness activities were concentrated in Latin America and the Caribbean (LAC) and in the Asia-Pacific regions. OFDA's programs were designed to strengthen capacities and skills of national and local first-responders for hydro-meteorological, earthquake and volcano, and urban and industrial hazards. Now, after a decade of OFDA assistance, many of the assisted countries in the LAC region have acquired a high level of disaster preparedness, mitigation and prevention capability, and are able to respond to most natural and human-caused disasters with minimal or no outside help.

As OFDA has begun to integrate PMP interventions into its disaster responses in Africa and other regions, the percentage of at-risk countries with disaster response capabilities has increased. OFDA's ongoing disaster mitigation activities in Sub-Saharan Africa and the Sahel have strengthened local capacities to manage extreme climate events and weather fluctuations. For example, OFDA-supported interventions are facilitating the development of regional and national drought prevention and mitigation polices in the Horn of Africa, Southern Africa and the Sahel regions. Effective and timely transfer of early warning information products to farmers has enabled them to adjust planting schedules and move their livestock to better grazing areas. In addition, support to international agricultural research institutions has accelerated the identification, development and transfer to farmers of drought and disease resistant, high-yield, short-maturity planting material.

OFDA-supported farm-level crop diversification and re-introduction of native varieties that are drought and disease resistant has improved the food security of at-risk populations. For example, planting disease-resistant cassava and sweet potato as a drought relief measure has enhanced food security of affected populations both during and after an emergency. Cassava is a drought-resistant root crop that serves as a staple food for more than 500 million people worldwide, and is an important food security crop. Following floods and weather conditions associated with El Niño and La Niña, cassava production kept thousands of people from starvation. To reinforce this success, OFDA has supported the production of disease-resistant varieties and restocking of national cassava germplasms.

To further enhance progress on SO2, OFDA recognized and supported the integration of medium and longer-term mitigation approaches in relief activities for recurrent disasters. These approaches have effectively reduced vulnerability of at-risk populations, decreased relief costs and delivered relief more effectively while saving lives and preserving livelihoods.

OFDA-supported seed programs and construction of reservoirs, shallow water wells, catchment basins, and irrigation systems have reduced vulnerability to recurrent drought. These programs have allowed farmers to continue production of food crops and to remain in their villages during the emergency phase. Protected areas, watershed management, and coastal mitigation programs provided economic and social benefits while reducing the potential impacts of droughts and floods.

OFDA has also supported work done by AFR/SD and REDSO/ESA related to the facilitation of trade within areas affected by conflict and complex emergencies (e.g., Angola and Sudan). These activities have enhanced incomes and strengthened food security of affected populations and have been a stabilizing factor in those conflict zones.

Working with USAID Operating Units and other actors, OFDA has promoted the concept of designing and implementing rehabilitation activities that reduce vulnerability to future disasters. Following Hurricane Mitch, OFDA began working with USAID operating units in Honduras, Nicaragua, Guatemala, and El Salvador as they developed their post-hurricane rehabilitation programs. OFDA provided technical assistance to ensure roads, bridges, essential lifeline facilities, and homes were designed and built in environmentally safe locations using appropriate building materials and methods that are more likely to withstand another hurricane. OFDA also obligated close to $11 million to strengthen national and regional disaster response capabilities. Local officials are being trained in disaster mitigation, planning and preparedness to strengthen local government disaster response and mitigation capacities.

Following the November 1999 earthquake in Turkey, OFDA and the Federal Emergency Management Agency (FEMA) collaborated to strengthen Turkey's earthquake preparedness capacity. Turkey is one of the most seismically active

countries in the world. Working with the USGS and other entities, OFDA has advanced the science of earthquake and volcano monitoring and forecasting.

Looking forward, SO2 will be integrated with SO1. The proposed integration of SO1 and SO2 (further discussed in Annex 3) will enable OFDA to more closely integrate PMPP measures in its disaster response activities. In addition, it will enable OFDA to integrate disaster mitigation with development activities supported by USAID in disaster-prone countries.

The case studies in Annex 4 demonstrate that OFDA activities in FY 1999 significantly contributed to the Agency's humanitarian goal, while directly supporting it's own objective of meeting the critical needs of disaster victims.

PART III. Resource Request

As shown in Table 3.1, OFDA obligated close to $294.9 million to fulfill its mandate in FY 1999. This amount includes $292.66 in International Disaster Account (IDA) funds, $1.93 million salaries and wages of United States Direct Hires and $285,000 for travel and other expenses.

Table 3.1: OFDA's Actual and Projected Resource request ($ in Millions)

Expenditure Category		Projected		
	FY 1999	**FY 2000**	**FY 2001**	**FY2002**
1. Operations Center	4.1	3.7	3.7	4.0
2. DART Teams	8.0	4.3	4.0	4.0
3. Disaster Response & Mitigation Capacity Building	45.7	40.1	40.3	41.1
4. Disaster Mitigation Joint-Funding with USAID Entities	24.1	19.8	14.5	19.3
5. Natural and Human Disaster Response	42.5	38.7	44.4	46.8
6. Complex Emergency Response	170.5	116.5	132.3	136.4
Grand Total	**294.9**	**223.1**	**239.2***	**251.6**

* In the Bureau Budget Submission for 2001, BHR requested IDA funding of $165 million

For the IDA portion of the budget, USAID requested $165 million for OFDA in FY 2001, resulting in a shortfall of $74.2 million for FY 2001. For FY 2002, OFDA requests $251.6 million for the IDA, including $2.7 million in operating expenses. The sources of funding are shown in Table 3.2.

In FY 2000, OFDA's staff includes 24 USDHs (one position unfilled), 28 Washington-based PSCs (excluding institutional contractors), 23 field-based PSCs and 26 RSSAs/PASAs and 2 AAAS Fellows (see Table 3.3). In addition, OFDA still maintains a staff of 9 in Kosovo, and has a worldwide FSN staff of 12.

During times of crisis, OFDA uses its flexibility to deploy staff to the field and to hire additional PSCs to fill resulting gaps. For FY 2001, OFDA requests one additional direct hire staff for a total of 25. In addition, OFDA requests three additional Washington-based PSCs for a total of 31. For its regional offices, the Office is requesting three additional field-based PSCs for a total of 28.

For FY 2002, OFDA requests two additional direct hires for a total of 27, one to serve in the OFDA regional office in Africa, and one in the regional office in Asia. In addition, it requests 28 RSSAs/PASAs, two AAAS fellows, 33 Washington-based

PSCs, and 30 field-based PSCs, and will continue to maintain an FSN staff of 12 for a total staffing level of 132 (excluding institutional contractors staff).

The magnitude and the unpredictable nature of most disaster events place tremendous constraints on OFDA's ability to address results under Strategic Objective No.1. OFDA has to respond very rapidly and remain very flexible in order to fulfill its mandate.

Experience has shown that disaster response funding frequently exceeds appropriations. In FY 1999, two major crises required obligation of several million dollars in a matter of days: 1) Kosovo, where hundreds of thousands of IDPs, refugees, and returnees required immediate relief, and, 2) Hurricane Mitch, which displaced hundreds of thousands of people in four countries. Supplemental funding was thus required to augment the IDA budget allocation in these two cases.

Many cost elements need to be recognized when reviewing OFDA's resource request. **First**, for each major declared emergency, in order to respond effectively OFDA activated the "Operations Center" for as long as necessary. Regular OFDA personnel are selected for service in these cases, which puts considerable additional workload requirements on those not selected but who must assume the workload of employees working on yet other disasters. For severe or protracted emergencies, the Operations Center is frequently operated 24 hours each day, seven days a week. During FY 1999, the Operations Center was activated five times. As shown below, it was operated by OFDA staff for more than 4,800 person days. The estimated cost of the Operations Center was $ 4.08 million in FY 1999.

Operations Center

Event	# of Days	# of Persons	# of Person-days*
Hurricane Mitch	60	12	1,260
Colombia Earthquake	21	7	257
Kosovo Complex Emergency	88	17	2,618
Turkey Earthquake	18	17	536
Taiwan Earthquake	8	12	168
Total	195	65	4,839

* Assumes each person devotes on average 14 hours of his/her day on Operations Center duties

Following the Turkey earthquake in FY 1999, OFDA tested an Operations Center management structure designed to keep pace with an increased demand for sustained Washington oversight of responses to major disasters. This new management system has enhanced OFDA's ability to respond to major disasters without causing huge interruptions in its work on smaller disaster declarations and ongoing, long-term complex emergencies. Pre-identified, on-call teams now stand ready for activation in Washington D.C. at any time to better coordinate disaster responses and support large field teams.

While the Operations Center is an important tool of OFDA response management, in FY 1999 the Operations Center was operated for longer periods to satisfy externally driven demands. These pressures place a significant workload burden on already over-committed staff, and need to be recognized and addressed.

Second, for each major declared emergency, OFDA deployed a Disaster Assistance Response Team (DART), and sometimes more than one, to conduct assessments and to coordinate the disaster response in the field. As is true of Operations Center responsibilities, most people selected for service on DART teams are OFDA personnel who must leave their regular duties to colleagues. During FY 1999, there were eight major declared disasters, for which nine regular and four modified DART teams were fielded. The smallest DART team was one person (El Salvador – Hurricane Mitch), and the largest was 96 people (Taiwan – Earthquake).

DART teams can include individuals from other BHR offices, BHR management, the affected Regional Bureaus and USAID Operating Units, functional experts from other USG entities, and Miami-Dade and Fairfax County Fire Department Search and Rescue personnel. As shown below, in FY 1999 the five major disasters required close to 73,100 person days of DART support. OFDA's share of DART related expenses is estimated at more than $ 8.0 million including funds obligated for the participation of Fairfax County ($1.29 million) and Miami-Dade ($1.96 million) Search and Rescue teams.

Disaster Event	# of DART Teams	# of People Involved	# of Days in Field
Central America - Hurricane Mitch	4	24	67
Kosovo – Complex Emergency	3	40	92
Turkey – Earthquake*	1	84	21
Taiwan – Earthquake*	1	96	11
Colombia – Earthquake*	1	93	26
Total	10	337	217

* Includes Search and Rescue Personnel (about 70 people) per team.

The number of days the Operations Center was manned and the number of DART person-days in FY 1999 was unprecedented. However, national and international climatologists have forecast severe climate events entailing drought, forest fires and famine in some parts of the world and cyclones, heavy rains and flooding in others to occur more frequently and severely. Geologic and seismic researchers around the world, including scientists at the USGS, predict more devastating earthquakes and severe volcanic eruptions in many places. This raises the possibility that OFDA may have to deploy more DART teams and activate the Operations Center more frequently in the future.

Third, although external emergency assistance can save lives and reduce human suffering, effective response to drought, famine and earthquakes must begin locally. In FY 1999, OFDA funded many activities designed to strengthen regional, national and local disaster response and mitigation capacities. It supported programs designed

to reduce food insecurity, improve emergency health and nutrition, prevent and control epidemics, improve management of climate variability to protect vulnerable populations, and enhance vulnerability mapping and targeting. OFDA will continue to support work in these areas.

In FY 1999, OFDA obligated more than $45.7 million on capacity-building activities. Of this total, as shown below, OFDA obligated $27.2 million to strengthen its own disaster response and mitigation capacity through cooperative agreements, service agreements (RSSA/PASA) and contracts with other USG entities.

USG Entities Services Providers	
Vendor	**FY 99 Obligation**
Agency for Toxic Substance & Decease Registry	119,294
Center for Disease Control	1,027,600
DOD	2,525,000
FEMA	3,250,000
NASAR	159,088
SPAWAR	4,079,904
US Army Corps of Engineers	50,000
US Coast Guard	25,000
US Geological Survey	1,623,526
US Public Health Services	284,703
USDA	5,042,464
USSOUTHCOM	9,000,000
Total	**27,186,579**

Excluding about $626,221 obligated in support of USAID/BHR/FFP/ER for hiring personal service contractors, OFDA obligated funds for:

- OFDA staff training and staff enhancement through hiring personal service contractors for the Washington, DC office and for field operations, in the amount of $3.1 million;

- Contract services from private institutions such as the International Research Group (IRG), the International Research Institute, MacFadden & Associates, the Mitchell Group and the Professional Resources Group International, among others, in the amount of $1.6 million; and

- Resource sharing arrangement with the Fairfax County, Virginia and Miami-Dade, Florida Fire Department search and rescue teams in the amount of $6.8 million.

In FY 1999, OFDA funded many activities designed to strengthen the disaster response and mitigation capacities of targeted at-risk countries and regions. Regional offices were established and funded to coordinate and manage relevant activities. In addition, contracts were awarded to US universities to provide training to host-country and implementing partner personnel (e.g., livelihoods training through Tufts

University, RANET activities through the University of Oklahoma). Other vendors were engaged to deliver specific services. OFDA obligated more than $ 6.5 million for such regional, national and local disaster response and mitigation capacity-building. In future years, OFDA expects to continue to focus sufficient resources on capacity-building. Such activities will be expanded to countries at risk of natural and human-caused disasters in Sub-Saharan African and Europe and Newly Independent (ENI) countries of the former Soviet Union.

Fourth, prevention and preparedness interventions ease the necessary transition from response to development activities. OFDA expects to expand its coordination and collaboration with USAID operating units in disaster-prone countries. It is working with USAID Regional Bureaus, the Global Bureau and other donors to ensure that appropriate disaster mitigation activities are implemented in crisis prone countries to minimize vulnerability to recurring disasters. In FY 1999, OFDA obligated close to $24.1 million for joint funding of mitigation activities with other USAID offices. In FY 1999, OFDA collaborated with the Global Bureau, the Africa Bureau and USAID Operating Units in Jamaica, Colombia, El Salvador, Honduras, Nicaragua, Dominican Republic, Kosovo, Haiti and India to reduce vulnerability to the effects of future disasters.

Collaboration & Co-Financing with USAID Entities

USAID Operating Unit	FY 99 Obligation
USAID/AFR/SD	1,220,000
USAID/AFR/WA	430,000
USAID/BHR/FFP	626,221
USAID/BHR/PPE	338,000
USAID/Colombia	470,000
USAID/El Salvador	10,000
USAID/ENI/DGSR	5,200,000
USAID/G/EGAD/AFS	2,168,212
USAID/G/ENV/ENR	64,000
USAID/Honduras	4,426,576
USAID/India	46,600
USAID/Jamaica	529,400
USAID/Nicaragua	4,100,000
USAID/Pristina	94,060
USAID/Haiti	1,536,294
USAID/Santo Domingo	2,872,200
Total	**24,131,563**

OFDA expects to continue close collaboration with other USAID entities. Incorporation of disaster mitigation activities into USAID's sustainable development programs will not only reduce relief costs but will also reduce vulnerability to recurring disasters.

Fifth, the cost of disaster responses is likely to be higher in years to come. Growing urbanization and industrialization coupled with population growth and inadequate enforcement of land use policies and building codes have compounded the lethal

impact of hazards. The loss in terms of human lives and economic assets is likely to be very high as demonstrated by Hurricane Mitch and the earthquake in Turkey. As indicated earlier, frequent and more severe climatic and hydro-meteorological events are predicted to occur in the coming years. In addition, the International Federation of the Red Cross' "World Disasters Report 1999" reports that 98% of all deaths from natural disasters occur in developing countries. It further states that one billion people are living in unplanned shanty towns, 40 of the 50 fastest growing cities are located in earthquake zones, and another 10 million people live under constant threat of floods. Despite these disturbing observations, total worldwide emergency aid funds have dropped by 40%, and insurance and reinsurance companies are refusing to provide coverage in some regions. These increasing hazards and declining funds are likely to make disaster response more costly.

In FY 1999, OFDA obligated more than $42.5 million for response and mitigation for natural and human-caused disasters. This amount covers (a) the cost of emergency and relief commodities including logistics, shipping and transportation; (b) grants to implementing partners; (c) technical and administrative support; and (d) US Ambassador's obligating authority.

Sixth, OFDA will continue to provide emergency assistance to several ongoing complex emergencies in Sub-Saharan Africa and the Balkans. Droughts in the Horn of Africa and Ethiopia, civil unrest in Angola and Sierra Leone and continuing volatility in the Balkans is likely to continue. Many other complex emergencies are protracted and no end to the suffering is in sight. The situation in the Great Lakes region, for example, is expected to worsen before it will get better.

It is realistic to anticipate that more developing countries in Sub-Sahara Africa and Central Asia may succumb to internal unrest and civil strife that requires major emergency assistance. Countries that OFDA continues to monitor include Kenya, Zimbabwe, Zambia and Ethiopia.

In FY 1999, OFDA obligated close to $170.5 million to respond to and mitigate the effects of complex emergencies. This amount includes obligations for emergency commodities, grants to implementing partners, and for technical and administrative assistance.

Table 3.2 presents actual and projected *program expenditures* by source. It includes operating expenses for USDHs salaries and wages, travel and other expenses, and the supplemental budget from Hurricane Mitch and Kosovo. The last time OFDA used its borrowing authority under Section 492(b) of the Foreign Assistance Act was in 1995. The last time budget transfers from other USAID Operating Units and Bureaus exercised was in 1996. These transfers were all development assistance funds that were used in OFDA as program funds for disaster response. In FY 1999, OFDA carried forward $67.5 million into FY 2000.

Table 3.2: OFDA's Operating Budget by Source ($ in Million)

	Actual					Projected		
Funding Source	**FY 1995**	**FY 1996**	**FY 1997**	**FY1998**	**FY 1999**	**FY 2000**	**FY 2001**	**FY2002**
IDA-New Obligating Authority (NOA)*	$150.8	$155.9	$165.0	$160.0	$160.0	$152.0	$234.2	$248.9
Supplemental**	$15.2	$0.0	$0.0	$0.0	$188.0	$0.0	$0.0	$0.0
Section 492(b) Authority	$19.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Transfers from other USAID Offices	$7.7	$14.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Carry-over***	$15.5	$19.2	$36.7	$31.0	$8.6	$67.5	$1.6	$0.0
Total Program Resources	**$208.2**	**$189.6**	**$201.7**	**$191.0**	**$356.6**	**$219.5**	**$235.8**	**$248.9**
Operating Expense (OE)								
USDHs Sal. & Wages					$2.0	$2.1	$2.2	$2.3
Other Operating Exp.					$0.3	$0.3	$0.3	$0.4
Total OE					**$2.3**	**$2.4**	**$2.5**	**$2.7**
Total Operating Budget	**$208.2**	**$189.6**	**$201.7**	**$191.0**	**$358.9**	**$221.9**	**$238.3**	**$251.6**
Obligations								
IDA	$192.2	$156.6	$174.6	$186.0	$292.6	na	na	na
Other	Na	na	na	na	$2.3	na	na	na
Total	**Na**	**na**	**na**	**na**	**$294.9**	**$0.0**	**$0.0**	**$0.0**

* The total NOA-IDA account, which is shared between OFDA and the Office of Transition Initiatives (OTI) is: FY 97 = $190 million, FY 98 = $190 million, FY 99 = $200 million.

** Includes recoveries and the de-obligations of closed and expired grants and other financial transactions.

Table 3.3 gives a breakdown of OFDA's actual and projected staff count. In FY 1999, OFDA operated with a staff of 138 excluding on-site institutional contractor personnel but including Foreign Service Nationals (FSNs). The equivalent estimate for FY 2000 is 126. Part of the reduction in the staffing level is due to streamlining of the Kosovo DART staff. For FY 2001 and FY2002, OFDA is requesting a staffing level of 125 and 132 respectively, excluding institutional contractors.

Table 3.3 BHR/OFDA WORKFORCE REQUIREMENT, FY 1999-2002

	Actual	Requested		
STAFF LEVELS*	**FY 1999**	**FY 2000**	**FY 2001**	**FY 2002**
USDHs	24	24***	25	27
RSSA/PASAs	26	26	27	28
AAAS	2	2	2	2
PSCs				
Washington Based**	27	28	31	33
Field Based	22	23	28	30
Kosovo Long Term DART Staff	25	9	0	0
FSNs	12	12	12	12
Total Staff	**138**	**124**	**125**	**132**

* Excludes personnel provided by institutional contractors (FY 1999 = 37)
** Excludes PSCs hired in behalf of FFP-ER (FY 1999 = 5)
***24 DH hire positions approved by BHR, 23 of which are currently filled.

Annex 1: FY 1999 OFDA Implementing Partners

Vendor	Total
International Organizations	
	120 000
	2 859 433
	417 000
Subtotal	3,396,433
UN Agencies	
	4 705 233
	4 625 580
	1 155 500
	2 098 425
	9 224 328
	2 551 535
Subtotal	24,360,601
US-PVOs	
	5 074 634
i i	321 000
	5 578 093
i	1 771 692
	565 583
	442 076
	2 978 084
	423 681
	13 818 890
	645 824
i i i	3 604 165
	600 000
	2 939 811
iv i i	651 716
	15 031 718
v i	89 500
	4 174 294
	2 319 615
i i	13 101
	6 692 493
i i	24 323 337
i i i i	120 245
	4 108 650
	118 429
	635 600
i	10 601 173
	320 590

i v	153 256
i i	617 399
	4 066 287
	690 050
i i i i	82 515
v i i	108 426
i i	12 872 036
Subtotal	126,553,963
USG Entities	
i i i	119 294
i	1 027 600
	2 525 000
	3 250 000
	159 088
	4 079 904
i	50 000
	25 000
i v	1 630 526
i vi	284 703
	5 042 464
	9 000 000
Subtotal	27,193,579
USAID Operating Units	
	1 220 000
	430 000
	626 221
	338 000
i	470 000
v	10 000
	5 200 000
	2 168 212
	64 000
	4 426 576
i	46 600
i	529 400
i	4 100 000
i i	94 060
i i	1 536 294
i	2 872 200
Subtotal	24,131,563
Other US Entities	
iv i	50 000
i i	2 408 627

i i i	24 895
i i vi	10 220
i	57 895
i i	499 365
i	236 058 28 800
i	637 582
i i i	75 948
i i	4 399 441
	200 000
	12 000
i vi i	1 791 200
i	289 541
iv i	1 176 599
iv i i i	344 729
	17 689
Subtotal	12,260,589
Non-US NGOs	
	1 880 958
	245 451
i v	255 000
	82 000
	147 200
i v i i	25 000
	1 036 255
i i ivi	220 000
	250 000
i	529 278
	861 307
i i	721 747
	3 611 971
	490 427
	72 766
i i	111 000
	2 524 682
	1 575
i i	500 000
	1 747 369
i i vi	45 500
i i	2 698 959
	368 108
iv i i	150 220
iv i i	40 000

	305 000
Subtotal	18,921,773
Total	236,818,501

Annex 2: Success Stories Demonstrating Progress on OFDA's Objectives

OFDA Supported Seismic Micro-Zoning Project Generated Sound Reconstruction Policies for the City of Armenia, Colombia

On January 25, 1999 an earthquake struck central Colombia, causing serious damage to the cities of Armenia and Pereira as well as to surrounding villages. OFDA provided financial and technical support to the Colombian Association of Seismic Engineering (AIS) to undertake a seismic micro-zoning study of Armenia. This study was expected to provide much-needed technical input to guide the city's land use and urban development plan, particularly with regard to reconstruction efforts.

Upon approving AIS' request for support, OFDA field staff worked closely with AIS to bring into the process all critical stakeholders, including key city officials, the University of the Andes, Ingeominas (the Colombian equivalent of USGS), and the University of Quindío. The group began working immediately to collect and organize information on the geodynamic and seismic-tectonic characteristics of the city, such as soil types, depth to bedrock**,** and other key characteristics in order to understand how the ground responds to a given earthquake event. Using this information, AIS ran a series of earthquake scenarios designed to provide an understanding of the seismic vulnerability of various zones in the city**.** The results of these runs were combined in a micro-zoning map that classified sections of the city into varying seismic vulnerability categories. These maps were then used to establish an acceptable range of earthquake-resistant engineering designs to be used for building reconstruction and the construction of other infrastructure. The project resulted in a set of specific seismic vulnerability reduction recommendations, which were broadcast to the general public in the form of a municipal decree.

In addition, results of the project were used for planning reconstruction efforts of the city and for defining policies on land use and building codes. The city's land use policies and building codes are now based on a more complete understanding of the unique seismic vulnerabilities of different sections of the city. It is expected that application of the project's recommended building designs and technologies in the reconstruction of the earthquake damaged infrastructure and new construction would reduce the impacts of future earthquakes in terms of lives and property lost, number of people affected, and overall social and economic disruption.

Key to the success of project is the continued involvement of the city's decision-makers and planners as well as the involvement of the private sector. An additional factor for the success of the project is the experience, credibility and capacity of AIS, who coordinated the project. By taking advantage of the expertise and experience offered by the various partners, AIS obtained, in only four months, reliable technical results that could be put to immediate use by city officials.

Application of a Simple Lake Degassing Demonstration Project Led to a Full Scale Carbon Dioxide Poisoning Mitigating Project in Cameroon

In 1984, Lake Monoun, and in1986, Lake Nyos, two volcanic crater lakes in west Cameroon, released clouds of carbon dioxide (CO_2) gas that claimed nearly 1,800 lives almost instantaneously and without warning. The horror and mystery surrounding the event prompted abandonment of villages and relocation of hundreds of people. Since these disasters, the level of CO_2 has been steadily increasing in each lake, while citizens slowly returned to the hazardous zone. In addition, the weak crater walls of Lake Nyos create a flooding threat to 10,000 people as far downstream as Nigeria. Until the CO_2 hazard is eliminated, however, cost-effective mitigation of the flood hazard is difficult.

At the behest of the US Embassy in Cameroon, in the spring of 1999 OFDA solicited a formal proposal from US scientists who had participated in an international consortium conducting long-term studies of the lakes. This consortium demonstrated a simple and controlled process for reducing the dangerous levels of CO_2 from these lakes in 1992 and 1995. In September 1999, OFDA approved a grant proposal from the University of Michigan to implement a degassing program, establish monitoring systems, conduct technical counterpart training, and promote hazard education to people living within the hazard zone over a three-year period. This work will be conducted under the direction of the Cameroon Ministry of Science and Technology (MST), and will incorporate lessons learned from prior demonstration projects. The three-year effort will involve scientists and engineers from Japan and France as well as from the US and Cameroon.

The first phase of the project was successfully completed in the fall of 1999. It included installation of lake and weather monitoring systems for each lake, and completion of an agreement for project management under the direction of the MST. Project scientists and the US Peace Corps' Crisis Corps began outreach efforts to the potentially affected population, and the Government of Cameroon made a commitment to improve the road to Lake Nyos. Installation of the pipes to begin degassing will occur later in the year 2000.

Volcanic Crisis Response & Mitigation Capacity Acquired From the OFDA Volcanic Disaster Assistance Program (VDAP) Helped Ecuador to Successfully Manage Two Sequential Volcanic Events

During the fall of 1998, Ecuador's Guagua Pichincha Volcano, adjacent to the 1.8 million inhabitants of Quito, the capital city of Ecuador, entered a prolonged period of unrest culminating in a series of explosive eruptions in late 1999. Prior to the eruptions, communities identified at greatest risk by scientists and authorities were evacuated. Through the fall and into the winter of 1999, the city was repeatedly dusted with several millimeters of ash which forced school closures, closed the international airport, and caused traffic, health, and clean-up problems.

Thanks to careful monitoring of the volcano by scientists at the Instituto Geofísica (IG) of the Escuela Politécnica Nacional, national and municipal authorities and the public were largely ready for the impacts of these eruptions. Over time, city and emergency agencies made adequate preparations for what could have been a significant disruption to life in Quito. With the exception of a few reported respiratory problems, no lives were lost as a result of the eruptions.

In September of 1999, Tungurahua Volcano, located south of Quito above the resort and tourist town of Banos, also sprang to life. Eruptions intermittently sent clouds of ash above the volcano and avalanches of debris and mud down its flanks, cutting off road access and coating houses and farmland with ash. Based on potential inundation zones identified by scientists prior to the eruption, and information gleaned from early warning networks, authorities evacuated more than 25,000 people, and no one was hurt. Unfortunately, the eruption lingered at a low-level for months, creating tension among the displaced and conflicts between evacuees and authorities. Despite these challenges, OFDA-supported technical monitoring infrastructure in Ecuador contributed to the ability of the government to plan for response, issue warnings, inform its citizens of risk, and make difficult decisions regarding evacuations thus averting the loss of human life.

OFDA-Supported Road Network Repair and Rehabilitation in Akot, South Sudan Revitalized Local Markets, Enhanced the Food Security of the IDP Community and Improved Stability of the Area

Following the rehabilitation of roads, relief supplies and consumer goods were brought over land by truck from Uganda to Rumbek town. The drivers of these relief trucks also brought consumer goods to sell to local traders. Although the level of relief deliveries to Rumbek and points north is likely to drop during 2000, local traders from Akot are expected to maintain market activity after the Akot to Mvolo road is repaired by Norwegian Peoples Aid (NPA) this year.

Increased trade in consumer goods has enhanced incomes of families in Akot and in surrounding areas. The community now feels more physically secure and has began to invest in more permanent livelihood-enhancing activity. This is evidenced by the market structure in Agang center, south of Akot. Several shops with walls made of mud bricks and cement plaster, and roofs and windows made of tin have begun to appear in large numbers. Traders are now storing significant amounts of goods in the shops, which are locked overnight. These changes indicate that traders are confident of security and are willing to invest in their shops, unlike in the past when all trading was done in the open, and all goods were taken out of the market at night.

OFDA-Supported Dissemination of Regional Climate Forecasting Products Has Helped to Mitigate the Effects of Severe Climatic Events Around the World

Southern Africa, the Greater Horn, and West Africa are particularly vulnerable to droughts and floods resulting from variations in seasonal rainfall. However, with recent advances in knowledge of the climate system and the potential for seasonal climate forecasting, OFDA and other organizations have recognized an opportunity to develop improved early warning, mitigation and response capabilities. In Latin America and the Caribbean, in collaboration with the US National Oceanic and Atmospheric Administration (NOAA), OFDA helped to strengthen capacities of the Latin American and Caribbean (LAC) regions to utilize recent advances in climate science to mitigate natural disasters. Since the 1997-1998 El Niño event, a series of joint activities was implemented throughout the region, to develop and communicate a consensus seasonal climate outlook for various parts of LAC, and to explore ways to apply this information to preparedness and mitigation efforts with decision-makers and researchers. In addition, activities were designed to 1) identify gaps in information and technical capability; 2) facilitate research cooperation and data exchange within and between regions; 3) improve coordination within the climate forecasting community; and 4) create and enhance a regular dialogue between producers and users of climate information. These activities represent the first time in history that a coordinated, scientific approach was taken to an El Niño event in LAC.

This effort led to the concept of a Pan American Climate Information and Applications System (PACIS). Much has been done in the region to implement the concepts expressed in the PACIS initiative. With the support of USAID, several activities have been generated to advance the principles of the PACIS, including the continued creation and distribution of climate forecast information via Climate Outlook Fora (COF). Each sub-region within LAC has developed a tailored approach to the project, ranging from the establishment of a Steering Committee in the Caribbean to the rotation of Climate Outlook Fora and associated training activities in Southeast South America.

A parallel effort is underway to make climate forecasts and related information user-friendly to scientists, researchers, policy makers, farmers and other users. To this end, the Climate Information Project (CIP) created with OFDA support to NOAA during the 1997-98 El Niño event simplified and standardized the manner in which climate information is gathered, analyzed and disseminated to users.

Many initial activities of the CIP involved retrieving and compiling available climate information into presentable formats, including digital formats and overheads. Through its monthly update, the CIP has received considerable user feedback on the presentation and usefulness of particular types of information. This feedback has been shared with information providers such as the International Research Institute for Climate Prediction (IRI). The IRI has recently reformatted its own monthly update (Climate Information Digest) in a way that combines and improves upon many of the lessons learned by the CIP, and as a result, the CIP is considering ceasing its monthly

update. Because the CIP is a very small activity, the project initiates activities in anticipation of "passing the baton" to larger, sustainable organizations.

During its initial stages, CIP worked with other members of the NOAA Office of Global Programs and IRI to develop a format for seasonal forecasts that was much easier to understand than the series of maps and images normally associated with model outputs. The result, "terciles", has become the standard among seasonal forecasters across the globe.

In addition, CIP has performed research on climatological impacts. Initially intended as a quantitative exercise to document global societal gains and losses associated with the 1997-98 El Niño as well as the current La Niña, the project quickly grew into a study on impact databases, information needs, trends, and much more. The work was published and has been referenced several times by media and other research projects, as well as being presented to several United Nations and other international bodies. A second volume of the study is currently in development. It is hoped that in the future CIP will open a dialogue with external organizations about impact reporting standards as well as formalize a network for information "trade" among media, government, and international agencies.

While CIP is designed to help simplify and standardize climate forecasting products, OFDA recognizes the need for a more effective vehicle for communicating the climate forecast products, so it has supported the Regional Climate Outlook Forum (RCOF) project in parallel with the CIP project. RCOF was initiated and coordinated by NOAA's Office of Global Programs, the World Meteorological Organization (WMO), and the International Research Institute for Climate Prediction.

Regional Climate Outlook Forums, typically held at the start of critical rainy seasons, bring together regional and international climate experts who assess competing methodologies as well as information on prevailing global climatic conditions, and develop a consensus seasonal climate forecast for the region. In addition to climate forecasting experts, participants in these forums include government planning agencies, famine early warning and relief organizations, farmers and extension agents, water resource managers, representatives of the media and other potential users of climate information.

Members of the Famine Early Warning community are able to use the meetings to exchange information on the food security situations in their respective areas. Farmers in Southern Africa have used the information to shift their planting schedules and move their cattle to better grazing ranges. Development agencies have used the information to design and implement longer-term mitigation activities such as construction of drainage structures to mitigate floods, micro-dams and lakes to catch runoff water for irrigation, and management of fragile areas. A primary measure of the success of the Forums is that while members of the climate forecasting community initiated them, they are sustained in large part by continuing demand from user groups, particularly the food security community.

OFDA-Supported Activity Quickly and Successfully Restored the Livelihoods of Fishing Villages Destroyed by a Powerful Cyclone

On October 29, 1999 a super-cyclone devastated coastal Orissa, India. About 3,000 fishing boats were either damaged or were completely destroyed in Nuagaon and Nolisahi Villages of Ersama.

It is common in coastal Orissa for four to five families to share one small boat, providing their basic source of livelihood. Shortly after the storm, the fishermen retrieved one large boat - the Bengal dingi, in which 30 villagers went fishing and the day's income was shared. Already severely traumatized by the loss of family members and homes, these fishers were additionally concerned by the loss of their source of livelihood.

To help repair and reconstruct small boats and provide fishing nets to the community, CARE quickly established an OFDA-supported program. In collaboration with the Government of Orissa, CARE mobilized five-member groups to contribute part of the money required to acquire boats and nets. The disaster victims themselves contributed skilled labor and food expenses for the laborers. About 1000 families benefited by getting the reconstructed boats. About 5000 families also received new fishing nets. The partnership between OFDA, CARE and the disaster victims was instrumental in reestablishing the livelihoods of the disaster victims with in a very short time.

OFDA-Supported Emergency Shelters Completed before the Severe Winter Season Reduced the Suffering of Thousands of Kosovar-Albanians

When approximately 1 million refugees returned to Kosovo at the end of the NATO bombing, many found their homes destroyed. A National Imagery and Mapping Agency survey estimated that up to 120,000 houses were damaged during the conflict, of which 50,000 were considered to be beyond repair. The United Nations High Commissioner for Refugees (UNHCR), the coordinating body for the humanitarian relief effort, sorted the houses in categories one to five, with category one indicating "no damage", and category five indicating "severely damaged or completely destroyed".

OFDA assistance was used to target houses in categories 3 to 4, which had the greatest impact on the greatest number of people. Shelter assistance was provided in the form of a "warm and dry room kit", which included enough material to seal off one room within the shell of a house. Materials supplied included timber, reinforced plastic sheeting, tools, windows and doors, a wood-burning stove, and other items designed to make at least one room in each home habitable for the winter.

As temperatures dropped to minus 25 degrees Celsius during the coldest winter in Kosovo in recent memory, the provision of such shelter undoubtedly helped to save lives. OFDA funds were directed to the hardest hit areas around Urosevac/Ferizaj, Podujevo and Mitrovica. While CARE International provided the shelter materials, the villagers were encouraged to put up the shelters themselves, to capitalize on the

culture of self-help and to avoid creating any dependency. Local architects and builders were employed to provide technical assistance. In the case of the most vulnerable families (in particular where there were no male relatives), CARE staff provided direct assistance to put up the shelter kits. More than 50,000 people benefited from this assistance.

OFDA also provided funding for a more substantial reconstruction program, involving the rebuilding of 120 roofs in the villages around Suva Reka/Suhareke. The majority of people in Kosovo perceive housing reconstruction as a top, if not the top, priority. Thanks to this project, nearly 1,700 people benefited from a new solid timber roof, built in accordance with local custom and with the help of locally employed architects and carpenters. These roofs form a significant part of more general plans for rehabilitation, and are very visible and crucial indicators that Kosovars have begun to rebuild their lives.

Community Participation in OFDA-Supported Flood Mitigation Activity Reduced the Incidence of Malaria and Other Water-borne Diseases

The Khartoum displaced camps were established over ten years ago and continue to function. Every year, torrential rains flood these displaced persons camps. The camps are built on marginal land, meaning that drainage is extremely poor and the camp population is at the mercy of thousands of square meters of stagnant and muddy water.

During the December 1998 floods, an OFDA grant to CARE mobilized the community to build a drainage system in the IDP camps. The community dug more than 60 kilometers of drainage ditches and trenches over the last two flood seasons. As a result, in 1999, the war-displaced population was protected from the usual surge of malarial and diarrhea disease created by seasonal flooding. The community has taken over the responsibility of clearing the drainage ditches and trenches prior to each rainy season.

In Ayacucho, Peru, OFDA Supported Disaster Preparedness, Mitigation and Prevention Training Facilitated the Return and Reintegration of the Internally Displaced Population

From 1980 through 1993, communities throughout Peru were affected by the civil conflict between the Government of Peru and the Shining Path guerrilla movement. Communities in the Department of Ayacucho were hit particularly hard, and tens of thousands of people became internally displaced. By the late 1990s, as the armed conflict subsided, many internally displaced persons began to return to their communities of origin. This process coincided with the 1997/98 El Niño events that caused severe impacts throughout Peru. The El Niño event demonstrated that natural disasters could jeopardize the return and integration process.

Consequently, in Ayacucho, OFDA staff worked with local officials, other international donors, and international and local NGOs to support the return of displaced populations by ensuring that communities were prepared for natural

disasters. In particular, OFDA collaborated with the local NGO, Desafío y Respuesta. This collaboration supported the training of local officials, community leaders and staff from local and international development organizations to prepare for, mitigate and prevent disasters in their communities. Between November 1998 and March 1999, OFDA consultants and OFDA-certified trainers conducted 12 courses that trained 297 people.

This training program achieved many positive results. First, the program resulted in uniformity of terms and methodology and common understanding between local officials, NGOs, and the communities regarding disaster prevention, preparedness and response. Each community now has its own Damage Assessment and Needs Analysis team composed of trained local officials and international and local development agencies. The program also resulted in the elaboration of multi-sectoral emergency plans in five communities.

In addition to these organizational changes, this training program resulted in several concrete actions. Participant communities have now identified and marked "safe havens" in community buildings for use during seismic events. The communities have supported the use of seismic-resistant construction techniques. A number of models have been constructed, including 80 family dwellings and four community centers. To mitigate against the effects of frequent drought, the communities of Chuschi and Huahupuquio have constructed irrigation canals and reservoirs. Finally, many beneficiary communities have developed stockpiles of Family Emergency Kits, which include food and hygiene items, for use during emergencies.

In the Dominican Republic, OFDA-Supported Salvaged Timber After Hurricane George Provided Cost-Effective Emergency Shelters for Thousands of Disaster Victims

In the wake of Hurricane George's in the Dominican Republic (DR), an estimated 44,000 people were rendered homeless due to the effects of high winds and flooding. Most of these disaster victims were provided emergency shelter in schools and other public facilities, but these facilities soon proved to be inadequate. In addition, the use of schools as emergency shelters was a contentious issue, because significant delays in reopening schools in affected communities resulted in tensions between community residents and homeless Dominicans. With limited funding, OFDA was tasked with formulating a shelter reconstruction program for as many of the homeless as possible.

The adoption of an innovative shelter solution emphasizing the use of salvaged timber proved to be extremely cost-effective relative to more conventional approaches. OFDA estimates that use of salvaged timber resulted in per unit housing costs that were less than 30 percent of prevailing market costs for equivalent-sized units ($506 vs. $1,750). This cost savings enabled OFDA to provide shelter to far more disaster victims than could have been assisted using more conventional shelter solutions (20,160 compared to 5,830 people).

Based on damage assessments and the potential for salvaging downed timber for use in shelter reconstruction, OFDA staff met with selected NGOs in December 1998, and eventually approved proposals totaling approximately $2.6 million. This funding supported a salvage logging operation, the reconstruction and rehabilitation of 3,360 houses, and the construction of 3,587 latrines. This activity commenced in February 1999 and by the end of project activity in July 1999, the sanitation and shelter needs of approximately 20,160 people (or 46 percent) of the total number of people rendered homeless by the hurricane were addressed. In addition, the sanitation needs of an additional 21,500 people were addressed because two families share each latrine.

There were several other significant and direct results of the shelter reconstruction effort. First, incorporating latrines as part of the reconstruction effort resulted in the dramatic improvement of sanitation conditions for thousands of disaster victims. Second, fire hazard potential in areas of salvage logging was reduced through a reduction in fuel loads. Third, soil erosion potential was reduced, and removing potential habitat reduced the likelihood of insect infestation.

The housing effort was supplemented by USAID/DR mission funds to rehabilitate and replant the roughly 2,100 acres of salvaged timberland. The project also provided equipment and training to the DR forestry agency, and identified fire prevention training needs that were subsequently funded by the US Forest Service. These relief and mitigation activities will enhance environmental management efforts and help reduce fire hazard potential in both the salvage logging areas and elsewhere in the DR.

Annex 3: Proposed Revision to OFDA's Strategic Framework

OFDA's Strategic Plan was approved in November 1996. Achievement of the strategic objectives and intermediate results outlined in that plan formed the basis for the management contract between OFDA and USAID/BHR. During nearly three years of experience with the strategic framework, OFDA has made changes to its disaster response and mitigation approaches. In addition, a merge of the former Disaster Response Division (DRD) and the Prevention, Mitigation, Preparedness and Planning (PMPP) Division is under consideration. As a consequence of evolved program approaches and the possibility of a reorganized Office structure, OFDA would like to drop Strategic Objective No. 2 and subsume the associated Intermediate Results under SO1. This revision to the strategic framework is explained below.

A. The Revised Framework

The revised framework separates programmatic, impact-oriented results from institutional, capacity-building outcomes. The programmatic results relate to OFDA's mandate of saving lives, reducing human suffering and reducing vulnerability of crisis-affected populations. Separating the programmatic results makes clear what results implementing partners should achieve and the institutional capacities required by USAID, implementing partners and host-country entities to achieve desired results.

As indicated earlier, relief is delivered more effectively in at-risk countries with minimally effective PMPP capacities. In countries with a higher level of PMPP capacity, relief efforts are likely to be smaller and more specialized. In addition, PMPP-type interventions in complex emergency situations can protect disaster victims' livelihoods while reducing the cost of emergency relief.

Strategic Objective No.1 (SO1), *"Critical needs met of targeted vulnerable groups in emergency situations"* directly serves OFDA's mandate of saving lives and reducing the suffering of people affected by natural, human-caused and complex emergencies. Implementing Partners' activities contribute to the achievement of this objective. In most cases, OFDA responds with emergency assistance that includes communication equipment, search and rescue, emergency health, water, sanitation, shelter and in some cases, food and agricultural emergency support.

In its Strategic Plan, OFDA had identified four Intermediate Results toward the achievement of SO1. IR1.1, *Improved targeting of emergency assistance to the most vulnerable groups"* reflects OFDA's emergency response priorities. Emergency assistance is first directed at the most vulnerable disaster victims, which include severely and moderately malnourished children and adults, child-headed and women-headed households, the elderly with no social support systems and physically handicapped individuals.

IR1.2, *"Emergency assistance, meeting recognized standards, delivered within acceptable timeframe"* reflects OFDA's requirement that emergency assistance be

delivered and distributed quickly to avert more deaths and human suffering. In the revised framework, IR1.2 is rephrased to read, *"Emergency assistance, meeting recognized standards, received by disaster victims in a timely manner."* This rewording better captures the quality and appropriateness of emergency assistance in terms of its impact. This intermediate result underscores the fact that when emergency assistance does not reach disaster victims on time, increased loss of life and severe human suffering can be the result. Disaster victims will soon deplete their assets and exhaust their coping mechanisms, and may die if emergency assistance is not delivered expeditiously.

IR1.3, *"Capacities for livelihoods protected/restored"* relates to OFDA's mandate of reducing human suffering by providing emergency assistance in a manner that will build on local capacities and traditional coping mechanisms. Rehabilitative activities implemented simultaneously with relief activities prevent a further deterioration of the situation and enable disaster victims to become self-reliant more quickly. For example, the distribution of food, seeds and tools to revitalize agricultural production builds and maintains local agricultural production capacity, enhances the food security of disaster victims and reduces disaster victims' dependence on emergency food assistance. IR1.3 is retained "as-is" in the revised framework.

IR1.4, *"Disaster response capabilities of NGOs and host government entities strengthened,"* is a lower level result needed to bolster achievement of IR1.1, IR1.2 and IR1.3. As currently stated, IR4 is a compound result. Institutional capacities of international NGOs, host country NGOs, and host government entities should be addressed separately. The requirements, strategies and instruments used for strengthening the institutional capacity of the relevant entities is likely to be different. In the revised framework, IR1.4 is dropped. Instead, the following three sub-IRs that relate to disaster response and mitigation institutional capacities are used to buttress achievement of IR1.1, IR1.2, and IR1.3.

Sub-IR1: Strengthened capabilities of international NGOs to design, implement and manage effective emergency response programs.

Sub-IR2: Strengthened capabilities of host-government entities to design, implement and manage effective emergency response programs.

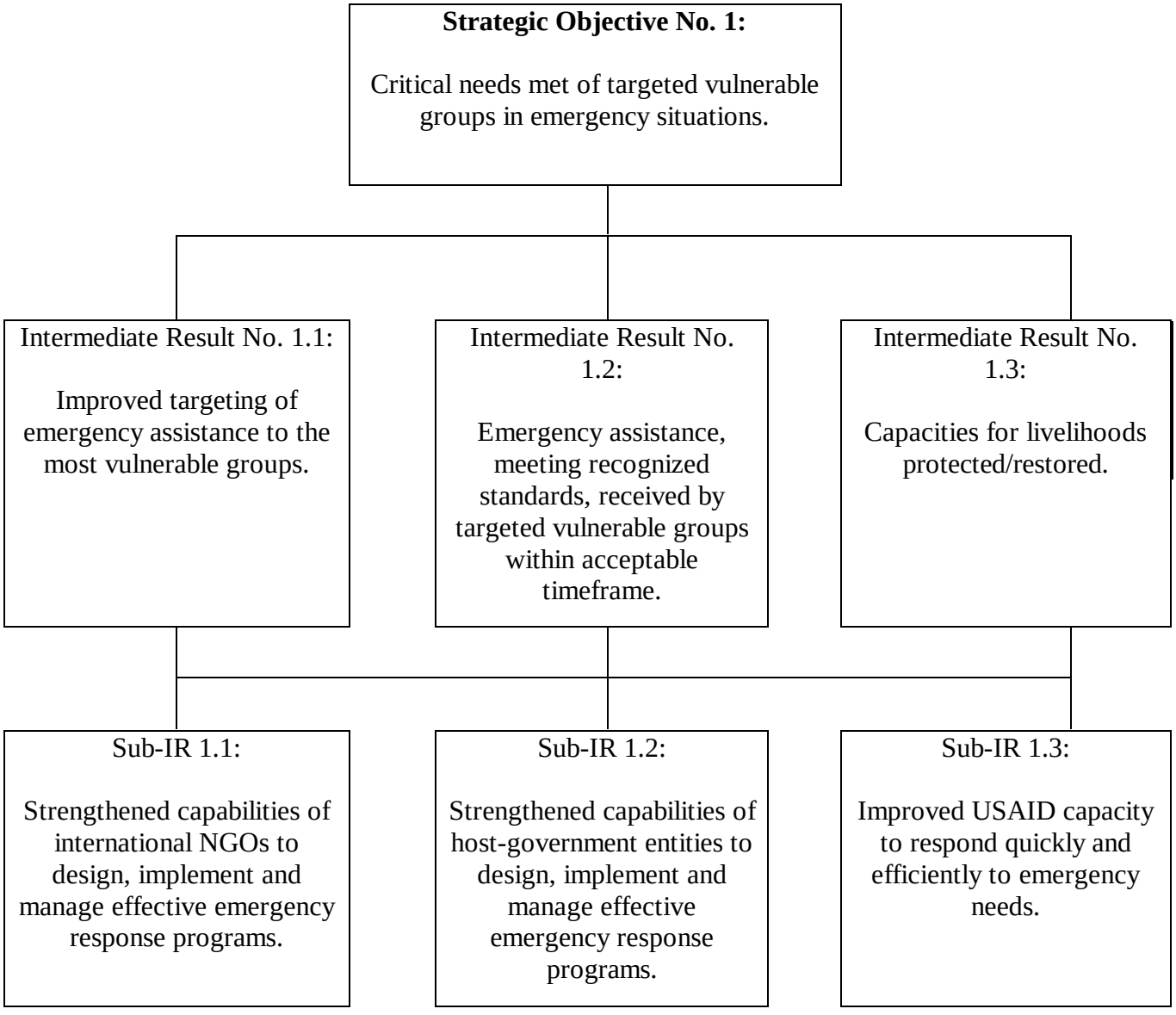
Sub-IR3: Improved USAID capacity to respond quickly and efficiently to declared disasters.

Sub-IR1 relates to OFDA-funded activities, such as the SPHERE project, Tufts University's Livelihoods training, and emergency medical response training, which strengthen PVO/NGO emergency response and mitigation capacities. Sub-IR2 represents results of OFDA-supported disaster preparedness, mitigation and prevention assistance to targeted at-risk countries. Sub-IR3 relates to the continual need to upgrade the disaster response and mitigation skills of the staffs of OFDA and the relevant USAID offices in order to effectively carry out the international disaster

assistance coordination responsibility delegated to USAID by the President pursuant to Section 493 of the Foreign Assistance Act of 1961.

Figure 1 provides a graphic representation of the revised framework. The revisions represent a realignment of the current framework and do not introduce fundamental changes.

Figure 1. Revised Results Framework



B. Performance Indicators

Through realignment and adjustment of the wording of some IRs, OFDA has made minor changes to associated performance indicators. Progress toward SO1 is assessed using the following performance indicator.

> **Performance Indicator No.1.1:** Percent of disaster response grants where an acceptable proportion of the targeted vulnerable population's critical needs have been met.

The indicator is in line with BHR's guiding principle of saving the greatest number of lives, alleviating suffering for the greatest number of people and reducing economic and social impacts of disasters for the greatest number of people within the constraint of limited humanitarian assistance resources. Mortality and morbidity rates, for example, should decrease as a result of emergency needs of disaster victims being met in a timely manner.

In principle, OFDA provides funding for 100 percent of the targeted population as represented by grantees. Thus the target for the indicator is 100 percent.

Achievement of Intermediate Result No. 1.1 is measured using the following indicators.

> **Performance Indicator No. 1.1.1:** Percent of disaster response grants that continually assess the needs of the disaster affected population and recalibrate the numbers of grant beneficiaries.

> **Performance Indicator No. 1.1.2:** Percent of grants that continually monitor and adjust grant activities to ensure that the critical needs of the targeted population are met.

These performance indicators ensure that implementing partners, (1) assess the emergency condition and emergency needs of disaster victims and adjust their intervention to match the assessed needs, (2) continually monitor disaster situations as they evolve and adjust the number of beneficiaries, and (3) ensure that emergency assistance is delivered according to reassessed needs and coping mechanisms of disaster victims.

Achievement of Intermediate Result No. 1.2 is evaluated using the following two performance indicators.

> **Performance Indicator No. 1.2.1:** Percent of grants reporting delays in distributing emergency commodities and providing emergency services to targeted disaster victims.

Performance Indicator No. 1.2.2: Percent of grants providing emergency assistance in accordance with internationally recognized standards.

Performance of IR1.3 is assessed using the following performance indicator.

Performance Indicator No. 1.3.1: Percent of grants that have incorporated appropriate rehabilitative and relief-to-development activities.

Annex 4

Case Studies that Demonstrate OFDA's Performance

- Burundi
- Turkey
- Sudan
- Kosovo
- Central America - Hurricane Mitch

Annex 4: Case Studies: Burundi, Turkey, Sudan, Kosovo, & Central America - Hurricane Mitch

BURUNDI

Highlights

- OFDA-supported relief and mitigation interventions have enhanced disaster victims' food security through their own increased food crop production and marketing, seed multiplication and marketing and increased rearing of small ruminants such as goats.
- OFDA-supported emergency health, nutrition, water and sanitation interventions saved lives, provided greater access to health care for disaster victims and protected health care capacity in Burundi.
- OFDA-supported programs have facilitated the resettlement and reintegration of returnees and IDPs.

Overview

In FY 1999, OFDA's assistance to the civil-war affected population in Burundi has achieved significant impact in terms of saving lives and reducing human suffering. OFDA-supported activities have contributed toward strengthening local community and household capacities to cope with and manage both civil war related crises and two consecutive irregular rainfalls and pest infestations.

According to a recent OCHA report, ethnic violence, which erupted in 1993, has created 776,000 internally displaced people living in 340 sites across Burundi, in addition to the 551,000 Burundian refugees in Tanzanian camps. Following the 1996 coup by Major Pierre Buyoya, a 36 month long economic embargo was imposed on Burundi. Although the economic embargo was lifted in January 1999, it nevertheless impoverished the country and exacerbated the economic insecurity of Burundians as a whole.

In addition to the profound disruption of the food production system by civil unrest, a new underclass of extremely vulnerable families, consisting of child-headed households, women-headed households, and the elderly, many caring for young orphans, emerged. Furthermore, the civil war resulted in widespread destruction of homes, schools, health facilities, markets, government offices, coffee stations and other infrastructure critical to livelihoods and food security.

In FY 1999, Bujumbura Rurale, the province surrounding Bujumbura, began to experience increased violence and attacks by what appeared to be rebel forces. Consequently, in order to identify the rebels, the Government of Burundi (GOB) forcibly put Burundians in regroupment camps. More than half of the IDPs living in these regroupment camps had no shelter provided, no potable water, no sanitation facilities, and no access to health care, food and non-food items.

Program Objectives: OFDA's overarching objective for its Burundi program is to save lives, and reduce human suffering by meeting emergency needs of the crisis-affected population while

strengthening local capacities to cope with the crisis. Therapeutic feeding of severely malnourished children and adults, immunization against childhood diseases, the provision of clean water and better health and sanitation services has saved lives. The provision of food rations, shelter material, and clean water and sanitation facilities has alleviated human suffering by reducing exposure to the elements and incidences and spread of diseases. OFDA-supported seeds and tools programs have improved food security of the targeted communities and have enhanced Burundi's agricultural capacity.

Implementing partners' grant objectives directly contribute to the achievement of OFDA's objectives. Implementing partners' grant objectives fall into the following categories:

- Enhanced food security (CARE, CAD, IFRC, Solidarites, WV, UNFAO, UNWFP)
- Expanded availability of basic and essential preventive and curative public health services, safe water and sanitation (ACF, GVC, IMC, MSF, WV, UNICEF)
- Improved nutrition (AVC, Solidarites, MSF, IMC, ACF)
- Increased resettlement of displaced people and reintegration of returnees (ACTION, CONCERN, WV)

Program Description: As summarized in Table 4.1, OFDA supports a wide range of activities in emergency health care and nutrition, livelihood protection and food security, shelter, clean water and sanitation in IDP camps as well as to resident communities. Funding was provided for therapeutic and supplemental feeding for severely and moderately malnourished children and pregnant and lactating women.

OFDA has also supported the revitalization of agriculture production. In Burundi, agriculture engages 94 percent of the population and contributes 54 percent of the Gross National Product (GDP). OFDA has provided funding for the distribution of basic agricultural inputs including seeds and tools. In addition to supporting household food production, OFDA has provided assistance for restocking of livestock.

Assistance has also been provided to forestall the collapse of Burundi's health care infrastructure. Funding is provided for training and retraining of local health workers, for medical and technical support to health centers and for surgical services.

Shelter activities are also supported for reintegrating and resettling displaced families. In addition, plastic sheeting is distributed in IDP camps for the construction of temporary shelter.

Progress Toward Objectives

As indicated above, overall OFDA has made significant progress toward its objectives in Burundi. More than 75 percent of OFDA's implementing partners have reported either meeting or exceeding their performance targets. The volatile security situation had made program conditions difficult as the population was almost constantly on the move.

A. Enhanced Food Security

Since 1993, the crisis has caused deterioration in Burundi's agricultural productivity through the loss of quality seed stock, destruction of laboratories, seed multiplication facilities and disruption of planting because farmers were forced to flee. These factors have resulted in an overall decline in agricultural output, which has been exacerbated by two years of irregular rainfall and pest infestations.

Table 4.1. Sector & Geographic location of OFDA-Supported NGO Activities

Implementing Partner	Sector of Assistance	Location of Activities	Targeted Population	OFDA Funding Level
ACF	Nutrition;			$ 317,257
ActionAid	Reintegration	Ruyigi	1,000 families	321,000
CARE	Emergency Flood Distribution	Across Burundi	1,790,044 (222,000 IDPs)	730,829
CAD	Food Security	Bubanza Province	3,000 persons	200,000
CONCERN	Reintegration			162,000
GVC	Nutrition	Kabezi commune, Bujumbura Rurale	10,058	220,000
IFRC	Agriculture	12 provinces	97,888	53,000
IMC	Health	Muyinga, Rutana, Muramvya	1,163	1,600,000
IRC	Water, Sanitation, Basic Shelter	Makamba, Bururi, Bujambura Rurale, Karuzi, Muyinga provinces	220,000	1,400,000
MSF/B	Health & Nutrition	Bujumbura, Karuzi provinces	1710 malnourished & 10,000 IDPs	426,018
MSF/H	Health & Nutrition	Kayanza province	281 monthly average	72,766
Solidarites	Food & Nutrition			244,666
World Vision	Health; Agriculture & Food Security	Bujumbura Rurale, Bujumbura, Bubanza, Cibitoke	24,000 war-affected 9,000 families	498,819 600,000
UNFAO	Agriculture	All of Burundi	61,600 HHs	784,000
UNICEF	Health & Nutrition	All of Burundi		600,000
UNOCHA	Coordination	All of Burundi	500,000	250,000 353,702
UNWFP	Food distribution	All of Burundi		245,587

The destruction or theft of most farm animals, traditionally used in Burundi not only for cash, milk and meat, but also for natural fertilizer allowing farmers to get up to three crops per year, has further degraded agricultural production. The result has been reduced revenue for farmers, and widespread food insecurity. Consequently, in FY 1999, a large segment of the population was faced with loss of livelihood and increased malnutrition and despair.

OFDA continues to provide support for rehabilitative activities in agriculture, roads, health, water supply and sanitation, with the overall goal of reducing immediate suffering, reducing vulnerabilities, reducing the high cost of emergency response and building long-term capacity for food security. Part of OFDA's strategy is to increase local agricultural production and

promote the marketing of surplus production to enhance household income. Key results achieved include increased food crop production, increased local seed multiplication and marketing, increased rearing of small ruminants, such as goats, and reestablishment of livelihoods.

Children's Aid Direct (CAD), IFRC, IRC, Solidarites, World Vision (WV) and UNFAO activities were particularly geared to enhancing food security. For example, CAD supported six women's groups in Bubanza Province to improve the food security of 600 of the most vulnerable families. Each group was provided 3 hectares to plant beans and sweet potatoes. Collectively, these women groups achieved a 20 percent increase in food production. In addition, four small-scale poultry houses and 4 hammer mills were established to augment incomes of the women from the sale of eggs and grain milling. In Karuzi Province, IRC helped construct three roof tile-making kilns as an income-generating activity for the community. Each kiln produces 3,000 to 4,000 roof tiles per week. This quantity is enough to provide roofing material for two to three houses. Kiln members sell each tile at 25 FBU, making a net profit of 10 FBU per tile.

IFRC worked with 2,700 farmers in 12 provinces to increase local food production. The guiding principle behind IFRC's program is that farmers receive 70 kg of high quality bean seeds or 2 mt of high quality potatoes seeds per hectare and after the harvest they reimburse 150 kg of beans or 2 mt of potatoes per hectare, which will be used to support new groups of needy farmers. Of the quantity that remains with the farmers, an amount is set for the next season's planting and the rest is either sold on the market or consumed. The average yield per hectare ranges between 500 and 800 kgs for beans and between 4 and 8 mt for potatoes. IFRC collaborates with UNFAO in the selection of seeds and adoption of seeds for Burundi's climate and soil conditions. In addition, 38 female kid goats and 2 male goats are distributed for one model community group per province. A few of the newborn goats are returned to IFRC or its partner, the Burundi Red Cross, for distribution to other groups.

WV worked in Karuzi Province to enhance household food production capacity and improve the food security of about 5,000 families. These families were provided seeds, fertilizers and tools. At the same time, WV provided support to the Ministry of Agriculture extension, seed multiplication and research services. In addition, it provided selected beneficiaries with goats, and micro-credit for off-farm income-generating activities. An independent evaluation of WV activities in May 1999 concluded that in spite of climatic, logistical, security, bureaucratic and other challenges, the interventions achieved important results including increased household food production. Of particular importance was the integrated nature of the activities and WV's support for seed research and multiplication services which resulted in the production of higher quality planting materials. To improve the self-sufficiency of vulnerable populations in Bubanza, Karuzi and Muyinga Provinces, IRC, in partnership with UNFAO and in collaboration with CAD, CARE, IMC, WV, UNHCR and UNWFP, distributed seeds and tools to approximately 16,997 families.

These OFDA-supported food security interventions were conceived in the context of OFDA's "livelihood protection" strategy, which builds on the existing assets and capabilities of the targeted populations to help them achieve self-reliance, thus freeing up relief resources for other

emergencies. The interventions are also consistent with OFDA's efforts to promote longer-term thinking in relief programming and disaster mitigation.

B. Basic Primary Health Care (BPHC)

OFDA also supported health and nutrition activities that saved lives. Several NGOs provided therapeutic and supplemental feeding to severely malnourished children and adults and to moderately malnourished children. Action Contre Le Faim (ACF), Gruppo Di Valontariato Civile (GVC), MSF and Solidarites provided therapeutic and supplementary feeding. Reported success rates are very impressive. On average it took between 22 and 30 days for recovery, and recovery rates ranged between 94 and 98 percent. Mortality rate was kept below 5 percent, with some feeding centers attaining a less than one percent mortality rate. All these organizations met or exceeded their grant objectives.

Other NGOs worked with the Ministry of Health and local authorities to forestall a breakdown of the health system. For example, WV successfully established Jabe Clinic as a 37-bed referral hospital with a six bed maternity unit. It provides outpatient and in-patient treatment, minor surgical treatment and conducts lab tests. It has exceeded its target of 10,764 in-patient treatments and 15,600 lab tests. The clinic is stocked with the most commonly used drugs and provides health care access to disenfranchised populations in Bujumbura, Bujumbura Rurale, Bubanza and Cibitoke. UNICEF distributes essential drugs and provides staff training.

Health activities are complemented by the provision of safe water and appropriate sanitation facilities. IRC has rehabilitated or established water points in IDP camps and feeding stations. In Kirundo Province, 30 wells benefiting 15,500 persons were rehabilitated to provide 17 liters/person/day. In addition 4 water systems and 5 spring caps were completed benefiting 15,748 persons with an average of 27.25 liters/person/day. In Muyinga Province, one water system serving 3,600 persons and 2 springs serving 3,732 persons were rehabilitated. The excess water serves several irrigation systems in Muyinga Commune. In Makamba Province, 11 water systems were rehabilitated to benefit 23,025 persons with 17 liters/person/day on average. In Bururi Province, 3 water systems benefiting 22,573 persons, one system serving 4,712 persons and two springs serving 5,887 persons were rehabilitated.

In the sanitation sector, IRC has completed many latrines in IDP camps across Burundi. In Makamba, IRC completed one six-hole block latrine at the Makamba Provincial Hospital, bringing the total number of communal block latrines constructed in Makamba Province to 12. In addition, IRC constructed two concrete platforms to the Health post in Nyanza Lac Commune. Ninety latrine slabs were distributed in Nyanza Lac Commune to bring the total number of family latrines constructed in Makamba and Bururi Provinces to 1,734.

C. Resettlement and Reintegration

Several NGO programs have facilitated the resettlement and reintegration of returnees and IDPs all across Burundi. For example, IRC rehabilitated water supply systems and health facilities in Karuzi, Muyinga and Kirundo provinces to facilitate the return and resettlement of IDPs from regroupment camps and Internally Displaced People camps. ACF and CARE facilitated the

resettlement of returnees. ACF reconstructed about 1,000 houses to resettle returning families in Ruyigi Province. CARE distributed resettlement ration until returnees became self-sufficient.

Managing for Results

There is a high degree of coordination and collaboration among relief agencies in Burundi to ensure the effectiveness of interventions. The health, food security, and resettlement interventions are implemented in a well-integrated manner. Therapeutic and supplemental feeding and emergency medical care is augmented by the provision of potable water and adequate sanitation facilities. Resettlement is effected with the provision of adequate access to health care services, potable water, sanitation facilities, education and livelihood support. NGOs and International Organizations work in close collaboration with the Government of Burundi and local authorities. In addition to the direct support to the targeted population, relief agencies are strengthening the capacities of relevant government ministries and local institutions to sustain the impact of current interventions.

Security

While security remains a problem, relief workers are made aware of the situation and are provided security training and guidelines before deployment.

TURKEY

Highlights

- The deployment of OFDA staff, consultants, and SAR teams in August resulted in the largest-ever DART in the history of OFDA. Although not seamless, the deployment and resulting management of field activities resulted in a rapid response to needs. Included in this response was the rescue of four earthquake victims by OFDA-funded SAR teams.

- The Turkish SAR teams that received training and equipment from OFDA-funded SAR teams responded to a subsequent earthquake in Athens, Greece, and managed to rescue an earthquake victim without outside assistance.

- DART staff assisted DOD personnel in the location of tents and winterized tents in communities throughout affected areas, thereby permitting earthquake victims to stay close to damaged/destroyed homes rather than be relocated to distant tent camps.

- Water purification units, hygiene kits, and other supplies from OFDA stockpiles were dispatched to the field in response to identified needs, and were distributed promptly through local and national Turkish organizations.

- Post-earthquake assessments resulted in the formulation of a mitigation program that will support GOT agencies and community-based organizations in the Istanbul region over a three-year period. FEMA and the USGS will collaborate with OFDA to implement the program. If implemented completely, the program holds the promise of reducing seismic risk for several thousand Istanbul area families.

Overview

Two devastating earthquakes occurred along the seismically active North Anatolian Fault Zone of Turkey in August and November 1999. The epicenters of both events were located in heavily populated areas, resulting in significant injuries and loss of life, as well as widespread damage to infrastructures, lifeline facilities, and disrupted services in the most economically important region of the country.

The first earthquake, a magnitude of 7.4 tremblor on the Richter scale lasting 45 seconds, occurred on August 17 at 3:02 a.m., local time. The epicenter was located near the city of Izmit, approximately 55 miles southeast of Istanbul. Principally affected areas included various districts of Istanbul and the provinces of Izmit (Kocaeli), Adapazari (Sakarya), Yalova, Bursa, Eskishir, and Bolu, located to the east and southeast of Istanbul. The naval base at Golcuk was also severely damaged. The earthquake was so large that it was felt as far east as Ankara, 200 miles away, and across parts of the Balkans.

The U.S. Geological Survey described the earthquake as one of the most powerful recorded in the 20th century, rivaling the 7.9 magnitude tremblor that devastated San Francisco in 1906. The cities hit hardest by the earthquake make up Turkey's most important industrial hub, and are thus vital to the country's economy. Extensive damage to industrial facilities made the August earthquake the largest seismic event to devastate a modern industrialized area since the Tokyo earthquake of 1923.

The official tally of damage from the first earthquake included more than 17,000 deaths, with unofficial estimates placing the death toll at between 30,000 and 40,000[1]. In addition, over 40,000 people were injured. Official damage accounts also included nearly 188,000 damaged and destroyed housing units (60,434 units destroyed, 58,860 moderately damaged, and 68,391 lightly damaged). Again, unofficial estimates were significantly higher, with totals of damaged and destroyed houses reaching as many as 300,000 units[2]. The damage was so extensive that more than 100,000 people remained homeless weeks after the event.

A second major earthquake of magnitude 7.2 on the Richter scale struck on November 12, at 6:58 p.m. local time. The epicenter of the earthquake was in the town of Duzce (population 200,000) in the Bolu Province in northwestern Turkey, 115 miles east of Istanbul. The affected area borders the zone struck by the August 17 earthquake. The most severe damage was concentrated in the towns of Duzce, Kaynasli and Golyaka. In Bolu Province, most public buildings suffered heavy damage. In Kaynasli, it is estimated that 85-90% of all buildings collapsed. Many of the collapsed buildings had been damaged during the August 17 earthquake.

The second earthquake struck in a less populated, less industrialized area, so the resulting damage was relatively less severe than that of the August 17 earthquake. Still, 550 people were killed, 3,313 injured, and 750 buildings were destroyed.

Immediate Impacts: In addition to the injuries and loss of life noted above, direct economic losses from the August earthquake alone totaled an estimated $9 billion, as follows: housing, $5 billion; industrial facilities, $2 billion; infrastructure, $1 billion; small businesses, $1 billion (20,000 small businesses destroyed, with the attendant direct loss of 140,000 jobs).[3] These losses represented roughly three percent (3%) of GNP.[4]

OFDA Response to the August 17 Event

On August 17, the U.S. Ambassador to Turkey, Mark R. Parris, declared a disaster and issued a request to use emergency disaster relief funds. OFDA immediately provided $25,000 to the Turkish Red Crescent Society, via the U.S. Embassy. This action was followed by the activation

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1 EQE International: http://www.eqe.com/revamp/izmitreport/index.html

2 International Federation of Red Cross Red Crescent, Situation Report No.37, 14 Feb. 2000.

3 Prof. Mustafa Erdik, Director, Kandilli Observatory and Earthquake Research Institute, Bosphorus University, Istanbul.

4 World Bank, Project Appraisal Document: A Marmara Earthquake Emergency Reconstruction Project, Report No. 19844-TU, November 1, 1999 p.48.

of the Fairfax County, Virginia, Search and Rescue team (SAR). On August 18, a four-person OFDA/DART team arrived in Istanbul to conduct humanitarian needs assessments in affected areas, formulate a response strategy, and coordinate with other donors. Early on August 19, the Fairfax Country SAR team began operations in Izmit, and by noon had rescued three people from the rubble. On the same day, OFDA ordered the deployment of a second 70-person SAR team from the Miami-Dade, Florida Fire Department.

The Fairfax County SAR team rescued another person on August 20, bringing the total number of people rescued to four. Two additional rescues were reported on 20 August by other international SAR teams working in the cities of Golcuk and Ciancik. The Miami-Dade Fire Department arrived on August 21, and immediately began structural damage assessments to determine the habitability of damaged buildings in the cities of Yalova, Golcuk, Izmit, and Adaparazi.

The Fairfax County SAR team departed on August 24, followed by the Miami-Dade SAR team on August 26. Although the Miami-Dade SAR team did not rescue any survivors, they provided medical assistance and left equipment in the form of tents, generators, heaters, and bottled water to be used by local hospitals and other emergency organizations. They also transferred $278,000 in rescue tools and equipment to local Turkish firefighters, and provided training in how to use the equipment, prior to their departure.

DART activities commenced simultaneously with the SAR activities noted above. The four-person DART expanded to seven with the August 20 arrival of two epidemiologists from the US Centers for Disease Control (CDC) and a water/sanitation specialist. Also arriving on August 20 was an OFDA-chartered flight containing sufficient medical supplies for 10,000 people, as well as 30,000 blankets and 500 rolls of plastic sheeting. A second supply flight arrived on August 24, containing three water purification units capable of providing adequate drinking water for nearly 27,000 people per day. This was followed by the arrival of two planes on August 27 containing 11,000 hygiene kits and 17,500 five-gallon water jugs. In addition, a flight containing 200 rolls of plastic sheeting for emergency shelters arrived the next day. All of this material was distributed to Turkish organizations to respond to urgent humanitarian needs. The DART also assisted in the distribution of 7,000 Department of Defense (DOD) tents, which provided emergency shelter for an estimated 56,000 people.

In supporting the two SAR teams, a DART, and the distribution of needed relief supplies, OFDA spent a total of $4,695,256. In addition, the DOD supplied and erected approximately 7,000 tents, at a cost of $9,698,459. Therefore, total USG relief phase funding amounted to $14,393,715.

OFDA's Contribution to Seismic Risk Reduction

The North Anatolian fault system is one of the most studied and better-understood fault systems in the world. Seismologists now forecast a significant probability of a major earthquake in the

greater Istanbul region within the next 30 years[5]. The expected epicenter could be further west than the August 17 event, and thus closer to Istanbul. Recent modeling work indicates potential direct economic losses of over $25 billion for the Istanbul metropolitan area in the event of an intensity 8.0 event. Such an event would be crippling for Turkey because the area accounts for over 50% of national GDP.[6]

A single sentence from a report by one of the world's leading risk assessment companies sums up a most salient fact: "Almost all of the damage caused by the earthquake, and almost all of the deaths caused by the collapse of inadequately designed and constructed buildings, was avoidable. That is particularly true for buildings built during the last decade."[7] In addition to poorly designed and constructed buildings and the attendant need to improve land use planning, building practices, and lifeline infrastructure design and location, other shortcomings were identified by OFDA and others in the aftermath of the two earthquakes. Among those shortcomings were low levels of public awareness of, and training in, community-based preparedness, prevention, and response, as well as such response activities as SAR, relief supplies procurement and distribution, and emergency shelter management.

An example of a wide range of needs is illustrative. In the 72 hours after the August 17 event, hundreds of people came to help, but most lacked even the most basic search and rescue or first aid skills, and many of those who had skills did not have the requisite skills to organize willing but untrained volunteers to provide emergency assistance. As a result, at least 50 rescuers died. Furthermore, local residents had no idea how to facilitate the work of SAR teams, medics, or relief distribution. Hundreds stood by wishing that they knew what to do. Helplessness prevailed against a desire to provide mutual aid, making both relief work and psychological recovery difficult.

During the past few months, residents of Istanbul and elsewhere have moved from shock to managing the crisis. Both the province of Istanbul and the Greater Metropolitan Istanbul municipality have begun to address earthquake risk mitigation and disaster management, as have most of the almost 300 municipalities in the Sea of Marmara region. OFDA has begun to support some of these local and regional efforts through a three-year mitigation program.

The first component of the program will be support of a Protocol that the US Federal Emergency Management Agency (FEMA) signed with the Government of Turkey (GOT) Ministry of Interior in November 1999. This two-year program will support joint FEMA-GOT cooperative training activities in preparedness, response, mitigation, and recovery. The activities will permit the exchange of information through emergency management practitioners, trainers, and instructors, as well as scientific and technical cooperation, in an effort to improve the general emergency management and disaster mitigation practices of GOT. A key feature of the $300,000 program will be the transfer of skills, lessons learned, and approaches that FEMA has derived from its domestic Project Impact community-based mitigation program to GOT staff,

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5 Tom Parsons, Shinji Toda, Ross S. Stein, Aykut Barka, and James H. Dieterich, "Heightened Odds of Large Earthquake Near Istanbul: An Interaction-Based Probability Calculation," SCIENCE, Vol. 288, April 28, 2000

6 World Bank, op. cit. p.49.

7 EQE International, op. cit. , p.11.

particularly those in the Istanbul metropolitan region. SAR training will also be supported as part of OFDA-funded FEMA-GOT Protocol activities.

The second component of the mitigation program will entail OFDA support of U.S. Geological Survey (USGS) collaborative work with Turkish counterparts in the following activities over a two-year period:

1. Technical assistance in the completion of a revised seismic hazard assessment of Istanbul and the northwestern Turkey/Marmara Sea area. To support this effort, USGS will work with counterparts at the Kandilli Observatory of Istanbul to compile and interpret main shock and aftershock sequences of the 1999 events.

2. Training of Turkish seismologists from Kandilli and other appropriate institutions in state-of-the-art probabilistic seismic hazard assessment and mapping methodologies. This will occur through completion of technical assistance activities, as well as extended training visits of USGS scientists to Turkey, and vice versa; and

3. Provision of technical support to community-based groups in the Istanbul region that are active in the mitigation of seismic risk. The third component of the OFDA program will be direct support of the aforementioned groups over a three-year period. The focus of this support will be education, awareness raising, preparedness, and mitigation activities similar to those promoted as part of FEMA's Project Impact program. This will require close coordination of activities among OFDA, FEMA, the USGS, and Istanbul-based groups.

SUDAN

Highlights

- As result of OFDA-funded activities war affected populations now have greater access to health care.
- The provision of water drainage structures, clean water and sanitation facilities has alleviated human suffering by reducing the incidences and spread of disease.
- Seeds and tools and livestock vaccination and treatment programs have enhanced food security of disaster victims.
- OFDA's livestock support has resulted in a significant reduction of Rinderpest disease, which can wipe out entire herds if left unchecked, and has strengthened community animal health care by utilizing community-based approaches.

Overview

Overall, during FY 1999 OFDA's assistance to the civil war-affected population in Sudan achieved significant impact in terms of saving lives and reducing human suffering. OFDA-supported activities have contributed toward strengthening local community and household capacities to cope with and manage both the civil war related crises and natural disasters such as flooding that occurred in the greater Khartoum area, and drought in Bahr el Ghazal. More than 80 percent of OFDA's implementing partners achieved or made significant progress toward their grant objectives despite the unstable security situation in some areas of southern Sudan.

OFDA's assistance targets mostly the internally displaced population. Currently, approximately 4.5 million Sudanese, primarily southerners, remain displaced by the civil war. About 2.2 million have moved to Khartoum and are living in city slums, or in government camps in Kordofan province. An additional 172,000 Nubans have also been forcibly quartered in 72 "Peace Villages". The Government of Sudan (GOS) severely restricts humanitarian access to areas of the Nuba Mountains outside its control. During FY 1998, more than 2.0 million people in Bahr el Ghazal and Upper Nile regions of the south and Kassala in the north required food and non-food emergency assistance. The 35-year war has left the physical infrastructure in southern Sudan in ruins. Road networks, health facilities, government offices and the economic infrastructure are unusable.

With OFDA and other donors' support, international and local NGOs have not only provided relief assistance to the targeted population but are also helping build and strengthen local capacities to manage the crisis and to be more self-reliant. For example, in the more stable areas of southern Sudan, primary health care facilities are being rehabilitated and community-based health workers (CBHWs) are being trained and equipped to provide emergency preventive and curative health services. Traditional birth attendants (TBAs) are trained and equipped to assist pregnant and birthing mothers. Auxiliary hospital assistants (AHAs) are also trained and deployed in rehabilitated referral hospitals. Communities are trained and mobilized to construct pit latrines and water wells, and to maintain water supply points. Communities are also mobilized to dig drainage ditches to mitigate flooding. In Western and Eastern Equitoria,

displaced farmers and livestock owners are trained in appropriate farming systems, and are provided seeds, tools and extension services to be more productive and to market their surplus produce for cash or barter. Some farmers are also trained and contracted as seed multipliers for local distribution of seeds.

In some areas, civil strife continues to hamper the return, integration and recovery of people to their communities. In a few cases, civil strife has trapped and isolated some communities and has prevented humanitarian assistance from reaching them. During FY 1999, GOS control of relief flights and poor road infrastructure adversely affected program performance in Bahr el Ghazal.

Program Objectives: OFDA's overarching objective for its Sudan program is to save lives, and reduce human suffering by meeting emergency needs of the crisis-affected population while strengthening local capacities. Therapeutic feeding of severely malnourished children, immunization against childhood diseases, the provision of clean water and better health and sanitation services has saved lives. The provision of food rations, clean water and sanitation facilities has alleviated human suffering by reducing the incidences and spread of disease. Distribution of seeds and tools, and livestock restocking coupled with vaccination and treatment of cattle against Rinderpest and other diseases has enhanced food security of the targeted population.

Implementing partners' grant objectives directly contribute to achievement of OFDA's objectives. Implementing Partners grant objectives fall into the following categories:

- Enhanced food security, including improved road infrastructure (CARE, CRS, NPA, VSF, SCF/US, ADRA)
- Expanded availability of basic and essential preventive and curative public health services, safe water and sanitation (ACF, ACROSS, ADRA, ARC, CARE, CMA, CONCERN, IRC, CRS, SCF/US)
- Increased resettlement of the displaced and reintegration of returnees (NPA, CARE, CRS)

Program Description: As summarized in Table 4.2, to save lives and reduce human suffering OFDA-supported a wide range of activities in emergency health care and nutrition, livelihood protection and food security, clean water and sanitation in IDP camps as well as in targeted resident communities. Funding was provided for therapeutic and supplemental feeding for severely and moderately malnourished children and pregnant and lactating women. In many areas, relief activities were implemented along with preparedness, mitigation and prevention measures. For example, the construction of drainage ditches in the case of flooding to prevent and mitigate cyclical diarrheal diseases and malaria was effectively implemented in greater Khartoum IDP camps.

Funding was also provided for community and household capacity-strengthening for quick recovery and self-reliance. For example, seeds, hand tools and farming, harvesting and post-harvest crop storage training were provided to enhance community and household food security. Farmers are encouraged to engage in commercial seed multiplication and distribution.

Pastoralists are taught skills in cultivation to supplement food or income derived from their livestock while they are given assistance with their livestock, including restocking, vaccination and treatment, and animal husbandry.

OFDA's broad support for UNICEF/OLS, WFP airlift operations and other logistics assistance, enhanced relief efforts for the entire population in need.

Table 4.2. Sector & Geographic location of OFDA-Supported NGO Activities

Implementing Partner	Sector of Assistance	Location of Activities	Targeted Population	OFDA Funding Level
ACF	Primary Health Care; Nutrition; Water/Sanitation	Juba, Bahr El Jebel		$973,485
ACROSS	Public Health Care (PHC); Sanitation	Bor County		$323,772
ADRA	PHC; Food Security; Health; Veterinary; Nutrition (therapeutic feeding)	Latjor Upper Nile; Eastern Equatoria; Al Salam, Obdruman; Mayo Farm displaced camps	35,519	$797,186; $520,000 $1,542,584
ARC	Health	Kajo Keji	150,000	$1,718,704
CARE	Seeds & Tools; Road Rehabilitation; Sleeping Sickness; Basic Health, Disaster preparedness; Emergency Flood Relief	Tambura County; Greater Khartoum	10,000 farmers; 350,000 war displaced in Greater Khartoum	$1,280,317 $3,000,000
	Food Security	North Bor County	34,800 households	$2,358,057
CMA	PHC	Lankien, Zeraf Island		$600,000
CONCERN	Food Security; nutritional feeding	Yirol, Aweil West; Ajiep; BYDA, SRRA		$326,351; $660,000 $248,178
CRS	Food Security; PHC; Water	Labone, Nimule, New Cush, Ikotos,	90,000 IDPs, 40,000 returnees, and 13,700 other.	$1,968,217
GOAL	PHC; Nutrition	Bahr El Ghazal		$400,000
IAS-MEDIC	Water; Road Rehabilitation	Kajo Keji, Lakes		$1,089,473
IRC	PHC; Training; Emergency Sanitation	Bahr El Ghazal; Upper Nile; Aweil West, Rumbek; Malakal	160,000 in Upper Nile/ Jonglei region and 237,000 in Bahr El Ghazal region	$1,647,185; $800,000; $749,912 $465,000
MEDAIR	Food Security; relief	Northern UN		$321,100
MSF/H	Health; Water; Nutritional Feeding	North Bor County; Panthou		$899,150; $1,483,555
NPA	Food Security	Yei, Kajo Keji, Lakes	107,693 IDPs	$3,518,651
SCF/UK	Seeds & Tools	Bahr El Ghazal		$600,002
SCF/US	Emergency Relief;	Diling, Rasad, Abu	50,000	$875,000

Table 4.2. Sector & Geographic location of OFDA-Supported NGO Activities				
Implementing Partner	**Sector of Assistance**	**Location of Activities**	**Targeted Population**	**OFDA Funding Level**
	Immunization; Seeds & Tools; Goat Re-stocking; Water	Gebeha, Talodi, Kadugli Provinces		
VSF/B	Veterinary	Bahr El Ghazal		$600,850
WV	Relief	Bahr el Ghazal	170,000	$1,768,047
UNICEF	Various sectors	All of Sudan		$1,766,068
UNWFP	Food distribution	All of Sudan		$2,200,000

Progress Toward Objectives

As indicated above, *overall OFDA continues to make significant progress toward its objectives in Sudan.* More than 80 percent of OFDA's implementing partners have reported that they have either met or exceeded their performance targets.

A. Enhanced Food Security

OFDA continues to provide support for rehabilitative activities in agriculture and roads. Overall goals are to reduce immediate suffering, reduce vulnerabilities, reduce the high cost of emergency response and build long-term capacity for food security. Part of OFDA's strategy is to increase local agricultural production and promote the marketing of surplus crops. Key results achieved include:

- Increased production and marketing of surplus food crops
- Increased production and marketing of high quality planting seed
- Expansion of agriculture-based livelihoods
- Increased use of locally grown food for relief
- Reduced emergency food ration as communities have become more food self-sufficient

During FY 1999, CARE trained over 600 farmers to produce high quality maize, sorghum, groundnuts, cowpeas and common bean seeds for local commercial distribution. These contract seed multipliers were paid in cash for their certified surplus seed stocks. Six hundred metric tons of certified maize and sorghum seeds and 135 metric tons of certified groundnut seeds were purchased and distributed to other farmers for planting. The average yield per hectare of 300 kg exceeds the target of 200 kg per hectare. CARE also retrained and equipped community-based extension workers to further strengthen local agricultural capacity.

In addition to reducing the cost of humanitarian assistance, this commercial-based seed multiplication project has reactivated commercial activities. The infusion of cash into the economy is slowly attracting consolidators who are now buying up surplus farm produce to market in deficit areas, and in return bring to market a variety of consumer goods including bicycles, fishing nets, tools, household utensils, clothing, soap, sugar, and tea.

CRS, working with IDPs and returnees in Labone, Nimule, Ikotos, New Cush and Ngaluma in East Equatoria was successful in getting households to use their own seed stocks for planting. An average of 1.5 hectares was planted using the household's own seed stock. In addition, in Labone and Nimule, food rations were reduced to 50 percent of the average household food basket. Overall, household food crop production has reduced demand for relief rations. It should be noted that many of the IDPs in CRS areas are also pastoralists and are being trained in crop cultivation to reduce their dependency on livestock. Returnees are given seeds, tools and four months of food rations at 1,700 kcals before graduation from the program. CRS-trained community-based extension workers provide technical assistance and training to returnees and to IDPs.

NPA distributed seeds and tools to families in the displaced camps of Bomurye, Mangalatore, Kerwa and Juba in East Equatoria. As a result of a successful harvest by the IDPs, emergency food rations were reduced by up to 50 percent. In Kajo Keji and Yei counties returnees were producing sufficient food and consequently relief food rations were reduced significantly. NPA expects the community to become completely food self-sufficient in FY 2000. NPA is helping improve local agricultural capacity and productivity through training of community-based extension workers and farmers. It is encouraging successful farmers to train other farmers. This farmer-to-farmer training is proving to be an excellent vehicle for technology transfer.

In Kajo Keji, Yei, Rumbek and Yirol counties, NPA introduced a low-cost but highly productive farming technique using the Ethiopian style "maresha" plow and oxen. NPA provides credit for the purchase of oxen and training on how to use "maresha" plows, which are made locally. Although NAP has not yet reached its target, results to date are impressive. Yield per hectare has jumped significantly and more farmers are signing up for training. The most interesting aspect of NPA's activity is that, like CRS, it trains pastoralists to become crop cultivators to supplement income from livestock. Many of these pastoralists had lost much of their livestock and were in need of other sources of income.

According to World Vision, the introduction of the ox-plow farming technology has had a positive and significant impact on agricultural productivity. WV's agricultural training program operates in all five "payams" of Tonj County, where currently 94 teams of oxen are being trained by their owners. Since 1994, a total of 300 teams have been trained in the program. Implementing this project required overcoming significant cultural constraints, particularly local taboos regarding the use of cattle for labor, as cattle are a high-valued commodity among the predominantly pastoral communities. An additional cultural constraint being overcome is the involvement of women, who are not traditionally involved in planting.

WV also operates a food-for-work gardening project for war-widowed women in Tonj County in Bahr el Ghazal. The project was initiated following the famine of 1998 to reduce dependency on food aid for the last beneficiaries of the Tonj County nutritional feeding centers. Women participants live at the site with their children and are collectively provided 20 "feddan" (an area 60 x 70 meters) for cultivation of sorghum and ground nuts. Participants are provided OFDA relief kits, which contain blankets, cooking pots, and other essential survival items.

Livestock

In addition to the distribution of seeds and tools, OFDA provided support for livestock protection. Key results include a significant reduction of Rinderpest disease, which can wipe out entire herds if left unchecked, provision of other animal health services through a community-based approach and increasing the number of livestock herds. Cost recovery approaches are used to limit dependency on aid. Livestock owners pay about 70 to 75 percent of the real cost for treating their animals. Percentage of the revenue is used to pay the Community Animal Health Workers (CAHWs) and the remainder is put into a community fund used for a variety of purposes including human health services and children's education.

During FY 1999, VSF was active in training community-based animal health workers in diagnosis and treatment of various types of endemic animal diseases and Rinderpest. Other NGOs such as CRS, NPA, SCF, and WV were engaged in the restocking of livestock and training of farmers and community-based extension workers in animal husbandry. Pastoralists who had lost most of their livestock as a result of the civil war are slowly recovering and increasing their herds.

B. Road Infrastructure Repaired & Rehabilitated

The civil war in Sudan has left the road network in ruins and has made many of the rivers and streams impassable. A primary aim of OFDA-supported activities is the rehabilitation and construction of key roads and bridges to facilitate the transportation of relief supplies and to link marketing centers.

In FY 1999, several NGOs were engaged in the rehabilitation of selected road segments. For example, CARE rehabilitated roads in Tambura County and constructed road linkages to Maple, Wau County. This activity was undertaken to facilitate transportation of surplus seed stock from Tambura County to deficit areas in Bahr el Ghazal. The road rehabilitation activity included clearing of vegetation, grading and compaction of bad road sections and the construction of culverts and stream crossings. A total of 300 km out of 500 km were repaired.

MEDIC rehabilitated the Yaya-Yei-Rasolo-Maridi-Mvolo-Faraksik route to link West Equatoria with Bahr el Ghazal. This road rehabilitation enabled the transportation of more than 30,000 metric tons of relief food to targeted communities in West Equatoria and Bahr el Ghazal.

WV coordinated the transport of 11,000 metric tons of food from Mombassa port to Tonj and Gogrial Counties in Bahr el Ghazal by road. This unprecedented first road distribution in the area resulted in a significant reduction in cost compared to standard air delivery. WV food distributions assisted 170,000 beneficiaries in both Tonj and Gogrial Counties. OFDA provided relief kits to benefit the vulnerable population in Tonj County, including ethnic Nuer who were displaced from conflict areas around the oil fields in western Upper Nile.

C. Increased Access to Basic Primary Health Care (BPHC)

In the health sector, the success rate of OFDA-supported therapeutic feeding programs is considerably high, with a recovery rate of more than 95 percent. The incidence of sleeping sickness and recurrent diarrhea has also declined. The potential for major disease outbreaks is now limited because the population is better aware of sanitation conditions and enjoys increased availability of safe water and sanitation facilities.

OFDA-supported NGO activities seek to treat the major causes of morbidity and provide vaccines and other essential drugs through Primary Health Care Centers (PHCCs) and smaller Primary Health Care Units (PHCUs). Training of Sudanese to staff these locations is a key ingredient of the strategy. Major results achieved include better trained Sudanese health care workers, increased number of rehabilitated PHCCs, detection and prevention of major disease outbreaks, and increased vaccination coverage against childhood diseases. Several NGOs have contributed to these important results.

For example, the American Refugee Committee (ARC), working primarily in Kajo Keji County in East Equatoria, has achieved its objective of meeting emergency health, water and sanitation needs of IDPs in Bamurye, Kerewa and Mangalatore camps. Working with a target population of about 150,000, of which approximately 25,000 are children under five years old, ARC in collaboration with MSF/SUHA achieved a 93.4 percent polio vaccination coverage rate. ARC was responsible for vaccination of 70 percent of the targeted population while MSF/SUHA was responsible for the balance.

With regard to Basic Primary Health Care, ARC, CRS, and IRC, among others, supported and provided refresher training to community-based health workers (CBHWs), traditional birth attendants (TBAs) and auxiliary hospital assistants (AHAs). CBHWs are given training on techniques of symptomatic diagnosis of common diseases, drug prescription, EPI skills, and difficult births. In addition to recruitment and training of community-based health workers, NGOs are active in rehabilitating primary health care centers and units. For example, during FY 1999, IRC rehabilitated and stocked with essential drugs 11 PHCUs and two PHCCs in Upper Nile/Jonglei region and 18 PHCUs and 2 PHCC in Bahr el Ghazal and the Lakes region. CRS rehabilitated and stocked with essential drugs 14 PHCUs and two PHCCs to serve the Taposa Community in Kapoeta in Eastern Equatoria.

As a preventive and mitigative measure against major disease outbreaks in IDP camps and in crowded habitations, NGOs are active in the provision of community and family latrines, and water well establishment and maintenance. Basic hygiene and sanitation awareness and training often accompany the provision of latrines and safe water.

ARC's water/environmental/sanitation achievements are noteworthy. All water wells are hand dug and are entirely constructed by the communities who use them. Communities provide all the sand, gravel, and labor for digging and construction. ARC supplies cement, and UNICEF provides the hand pumps and well casings.

To increase hygiene and sanitation awareness, ARC's program ties hygiene practices to a women's soap making project. Women are taught simple methods for making soap and are

given knowledge of hygiene and sanitation practices in the process. Incidentally, the locally made soaps are in greater demand than are imported ones.

In order to reduce the incidence of respiratory diseases related to smoke inhalation from traditional cookstoves, ARC trains women in simple clay cookstove making. Open fire cooking wastes fuel, and produces too much smoke, which translate into respiratory disease and an increased number of child burns. The clay cookstoves promoted by ARC use local clay, and are easy to build and maintain. They produce very little smoke and use less fuel wood compared to an open fire. Women are eager to participate in the project because it dramatically reduces the labor and time required to gather fuel wood. During FY 1999, approximately 24,000 women were trained to make these simple clay cookstoves.

In conjunction with the cookstove project, ARC started low-cost nurseries for the germination, cultivation and distribution of tree seedlings. Most of the trees are fuel wood varieties, but fruit trees and trees of economic value (mahogany and teak) are also planted. During 1999, over 80,000 seedlings were grown and distributed to the community.

World Vision has an activity underway to reduce the incidence of guinea worm in the area. The crippling effect of this disease is especially debilitating to the community at harvest time. Guinea worm larvae are water-borne, and prevention measures include filtering drinking water through simple filters. In collaboration with the Carter Center, WV is supporting a successful project in the area through distribution of filter cloth in 78 villages where over 4,000 cases have been identified. Water filter nets are included in USAID/OFDA-funded relief kits.

Managing for Results

In order to enhance progress toward objectives, NGOs from time to time conduct nutrition screening surveys and monitor project outputs. By continually retargeting and recalibrating its activities, CARE was able to speed up recovery and self-reliance. For example, the monthly monitoring reports conducted during August through December 1999 showed that able-bodied members of the En Nuhud Displaced Camp were absent, and that 70% of the camp population were the elderly, children and sick and disabled people. The project staff indicated that limiting food aid to cover only the needs of the most vulnerable groups in the camp encouraged the active population to seek employment and income generating activities outside the camp to secure their basic needs, including food.

Security

Majorities of implementing partners have indicated that their staff are trained and able to act responsibly during adverse security situations. Relief personnel are trained and provided with protocols for security evacuation and other measures. In FY99 the security situation in greater Khartoum area and in parts of southeastern Sudan were relatively stable.

KOSOVO

Highlights

- OFDA's Disaster Assistance Response Teams in the region were instrumental in driving the humanitarian agenda among donors and the UN. OFDA supplied the first distribution of emergency food rations, tents, blankets, plastic sheeting, hygiene kits, and water jugs during the massive refugee crises in Macedonia and Albania, when other pipelines did not exist.

- OFDA's successful shelter program in the fall and winter of 1999 housed over 290,000 people at a cost of only $150/person. OFDA funded 40% of the total emergency housing effort.

- OFDA funded over 50% of the 1999 fall agriculture rehabilitation effort that revitalized the livelihoods of over 70,000 families.

- OFDA and other donors' shelter programs in the summer of 1999 were very slow to become operational, causing delays in the preparation for winter. One of the obstacles, the backlog at the Macedonia/Kosovo border, was overcome by OFDA through its use of the railway to transport goods.

Overview

OFDA activities during the Kosovo crisis in FY 1999 were critical to saving the lives and reducing the suffering of hundreds of thousands of people during the Serbian crackdown on Albanian citizens in the province, the mass migration to neighboring countries, and the return to Kosovo. OFDA's flexibility in responding quickly to a fast-changing situation, and its careful programming through implementing partners were essential to the overall success of the humanitarian community's efforts in Kosovo, Macedonia, and Albania.

OFDA efforts in Kosovo during FY 99 spanned three distinct phases. The first phase was the pre-bombing period between October 1998 and March 1999. The second phase was the refugee crisis in Macedonia and Albania during the NATO bombing between March and June 1999, and the third phase was the return period June to September 1999.

During Phase I, OFDA assistance focused on helping internally displaced persons and their host families as the number of displaced grew and conditions inside Kosovo worsened. Toward the end of 1998, many homes had been damaged or destroyed, and an estimated 220,000 persons were internally displaced within the province. In October, the US Ambassador to the FRY issued a disaster declaration, and OFDA sent its first Disaster Assistance Response Team to Kosovo. Basic humanitarian supplies and services funded by OFDA and other donors during this time, which included mobile health care, hygiene supplies, blankets, food, and shelter assistance, proved critical to Kosovars' health and well being as conditions continued to deteriorate.

The commencement of the NATO air campaign on March 24, 1999, led to a mass exodus of Albanians from Kosovo and marketed the beginning of the second phase of OFDA's relief strategy. The DART evacuated from the province and turned to providing critical assistance to Kosovar refugees in Macedonia. OFDA dispatched a second DART to Albania to assist with the large, rapidly growing refugee population there. By the end of May 1999, 442,400 Kosovars had become refugees in Albania and 249,300 in Macedonia. The US Ambassadors in each country issued disaster declarations on April 7 and May 10, 1999, respectively. OFDA provided the first life-saving tents, plastic sheeting, and Meals Ready to Eat (MRE) to refugees entering into Macedonia and Albania, and continued to provide assistance to refugees in camps and to those living with host families. OFDA provided critical support to families hosting refugees and, in Macedonia, helped boost the local economy by purchasing locally produced relief items.

Phase III began in June when the NATO bombing ended and subsequent withdrawal of Serbian forces precipitated the fastest refugee return in history of over 800,000 people. OFDA and other donors provided basic, life-saving supplies and services such as health care, water well cleaning, emergency food and non-food items, and emergency shelter materials. OFDA support rehabilitated local capacities and revitalized the Kosovars' livelihoods through agricultural assistance and restoration of health and water/sanitation services. In October 1999, the US Chief of Mission to Kosovo issued a new disaster declaration in the face of the continuing emergency, under which OFDA continued its emergency shelter and other programs throughout the 1999/2000 winter.

PHASE I

Objectives. During the pre-bombing phase, OFDA's objectives were to save the lives of as many IDPs as possible and to reduce the suffering and negative impact on both the IDPs and their hosts. This was achieved primarily through the provision of essential humanitarian supplies and emergency services through grants to implementing partners.

Programs. OFDA funding was directed to over 800,000 beneficiaries through 11 grants to 10 implementing partners during this phase—nine NGOs and the UN's World Food Program. Six of the grants (CAD, CARE, CRS, DOW, Handicap International, and MCI) primarily supplied essential materials to the IDPs and their host families, including hygiene packs, food parcels, baby packs, blankets, stoves, clothing, and sleeping pads. The other five grants (IRC, MDM, Solidarites, and WFP) provided emergency services such as water and sanitation repairs, shelter rehabilitation, primary health care, air transportation for the relief operation, and logistical support. The total amount of OFDA funding for this phase was $4,597,473. Due to the evacuation of the humanitarian community from Kosovo, OFDA quickly realigned $1,410,620 of these funds to support Phase II programs in Macedonia. (see Table 4.3a)

Program Effectiveness

Overall, OFDA and other donor programs effectively saved lives and reduced the suffering of the vast majority of IDPs and their hosts. Given the deteriorating political and security conditions in Kosovo between October 1998 and the NATO air strikes in March, OFDA programs essentially served as stopgaps to greater humanitarian suffering. To that end, OFDA-

supported mobile health clinics proved to be life saving, as more and more Kosovars in the fall of 1998 and winter of 1998/1999 sought refuge in the remote mountains. For IDPs, these mobile clinics were the only access to health care for months. The OFDA-funded supply of massive quantities of hygiene packs and the distribution of food staved off nutritional deficiencies and disease stemming from uncleanliness—a particular problem among displaced populations living in crowded conditions. Similarly, the distribution of clothing, boots, mattresses, and blankets to displaced populations was essential to their health and well-being. The improvement in water and sanitation facilities provided through OFDA funding was also key to avoiding outbreaks of potentially life-threatening illnesses, such as dysentery.

While programmatically, the nature and timing of OFDA grants filled essential humanitarian needs in Kosovo, UNHCR and NGO implementing partners were increasingly stymied by waves of greater destruction and displacement. The increased insecurity, particularly after the fall of 1998, made it difficult and often impossible for NGOs to access areas currently or recently under attack by Serb forces. This left many people without life-saving goods and services, and undoubtedly resulted in some deaths. On the other hand, IDPs flocked to areas they deemed safe, which, for the time being, were accessible to international agencies. Many of these areas were overburdened with displaced people and were inevitably underserved.

Table 4.3a: Phase I OFDA-Supported NGO Activities in Kosovo--FY99

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
1	CAD	**Winter Emergency Program** Provide water/sanitation repairs, hygiene packets and food parcels to DP's. Provision of baby parcels.	60,000 beneficiaries	Funded in FY 1998
2	CARE	Emergency Winterization Project Distribute winter relief items (blankets mattresses, clothing, hygiene material) to IDP's in the Northern Drenica Triangle of Kosovo.	5,000 households(30,000 individuals) in 50 villages	$470,912
3	CRS	Emergency Hygiene for IDPs Provision of basic hygiene commodities and hygiene packs; provide ration of flour, oil and beans under FFP program with salt and sugar; maintain satellite expansion office in Prizren to facilitate humanitarian aid activities. Support the return of displaced families in Kosovo through the implementation of shelter repair activities.	430,000 war affected individuals 130,000 IDP's	$619,798
4	DOW	**Logistic Support** Bulk food, transport/logistics support	30,000 IDP's	$794,631
5	Handicap Int'l	**Basic Health and Hygiene** Provision of antipressure sore kits incontinence kits, hygiene kits for disabled IDP's.	1,840 disabled IDP's	
6	IRC	**Accelerated Winterization Program** Shelter activities in Kosovo supplementing IRC's State PRM funded, USAID/OFDA administered emergency winterization project by increasing number of shelter teams from 3 to 6 Continue provision of shelter materials to war affected families.	10,000 Kosovar families 16,200 families	$177,220 $145,625

Table 4.3a: Phase I OFDA-Supported NGO Activities in Kosovo--FY99				
	NGO	**ACTIVITY**	**BENEFICIARIES**	**FUNDING**
7	IRC	**Water and Sanitation** Infrastructure improvements. Creation of a geographical information system ,(GIS) to collect, collate and disseminate data.	1,500 returnee families	$823,267
8	Medicine du Monde	**Mobile Health Clinics** Provision of emergency primary health care through mobile clinics.	50,000 IDP's	$559,000
9	MCI	**Food Distribution Program** Provision of blankets, stoves, sleeping pads winter boots, hygiene packs, flour, sugar and salt to IDP's. Establish sub-office in Pec.		$429,794
10	Solidarites	**Water Analysis and Well Cleaning** Increase quality and quantity of drinkable water from shallow wells.	1,500 beneficiaries	$144,749
11	WFP	**Logistical Support** Provision of support to the WFP RELOG to support humanitarian assistance programs of NGO's and IO's. Extension for AIRBRIDGE for Macedonia ($500,000) Provide regular air transport service to move all relief workers, documents, equipment, etc. between Rome, Tirana and Skopje.		$432,477
PHASE I FY99 OFDA FUNDING TO KOSOVO				**$4,597,473**
Reprogrammed Funds for Macedonia				**$1,410,620**
TOTAL				**$3,186,853**

PHASE II

Objectives. OFDA's objectives during the refugee crisis were to save the lives of refugees and to reduce suffering caused by displacement, including supporting families hosting refugees in Macedonia and Albania. Working with other donors, the DART teams' aimed to meet the physical and psychological requirements of over 280,000 refugees in camps, and to balance those services with provision of supplemental support to the over 390,000 refugees living in host families, the host families themselves, and Macedonian social cases. (The Kosovo DART evacuated just prior to the rest of the relief community to become the DART in Macedonia; OFDA sent a second DART to work in Albania.)

Programs. In Albania, OFDA had seven NGO implementing partners with one grant each, targeting 450,000 beneficiaries. CAD, CRS, and Solidarites distributed essential emergency supplies such as kitchen sets, hygiene packs, food, mattresses, clothing, and baby hygiene parcels, and provided psychosocial support to augment the material distribution. AAH, Merlin, and SCF provided services such as health care, water and sanitation, mother-child nutrition, and psychosocial assistance, and IRC provided funding for an assessment on outside willingness to host refugees and appropriate intervention strategies. OFDA funding for Albania during Phase II

was $9,837,899 for grants, $636,160 for material transport, and $805,500 for commodities, for a total of $11,279,559 (see Table 4.3b).

In Macedonia, OFDA worked with 11 implementing partners, including one UN agency, and funded 18 grants to help over a million beneficiaries. (Six grants had funding that was realigned from the Kosovo operation.) In all of its efforts, OFDA worked very closely with UNHCR and other donors to devise a relief strategy, ensure relief assistance was coordinated and reduce duplication of effort.

CAD, CRS, IRC, and Shelter Now directly supported refugees in host families, their hosts, and, in some instances, social cases, through provision of basic supplies such as hygiene kits, clothing, and kitchen sets, and through repairs/upgrades to living structures, including heating and water/sanitation systems. DOW, ICMC, IRC, MDM, and Solidarites provided mental and physical health care, community services, and water and sanitation facilities in refugee camps. CARE, IRC and CAD distributed blankets, food, mattresses, clothing, and other relief supplies to both sets of refugee communities and DOW and MCI provided needed goods such as food parcels and clothing in preparation for the return to Kosovo. OFDA extended grant to the UN World Food Program provided under Phase I to continue to support the relief operation through air transportation. Total OFDA funding for Macedonia was $17,659,796 for grants, $1,291,154 for transportation, and $2,479,538 for commodities, not including funds reprogrammed from Kosovo. (See Table 4.3c.)

Program Effectiveness

Overall, OFDA-supported programs saved lives and reduced the suffering of thousands and thousands of refugees and their host communities. In Macedonia and Albania, OFDA was the leader among donors in establishing a comprehensive plan to address the needs of refugees in camps and those living with host families. In Macedonia, OFDA further supported several programs that addressed the requirements of Macedonian social cases, given the tremendous need, political tensions surrounding aid to ethnic Albanians, and decreasing ability of the Government of Macedonia to provide assistance in light of the financial demands of the refugees. The DART also monitored the availability and accessibility of aid to the Roma community. The DART encouraged other donors to address the needs of all those affected, eventuating in a well-rounded international aid effort. OFDA also made tremendous efforts to support the local economy by establishing a local procurement mechanism, specifying local purchase in its NGO funding, and encouraging other organizations to follow suit.

To the detriment of the refugees, UNHCR was abysmally slow at becoming operational in both Macedonia and Albania. The DARTs' efforts during this void in leadership were instrumental in saving the lives of many refugees. For example, OFDA provided the first air shipment of tents, plastic sheeting, blankets, emergency food packs, and other essential relief materials to both countries before UNHCR's pipeline was established. This provided thousands of refugees with a warm, dry living space and food during the early days of the exodus. The DART in Macedonia also helped fill UNHCR's staffing gap by requesting implementing partners to serve as camp design specialists and liaisons with NATO contingents to help lay out the refugee camps during the construction phase. Subsequently, UNHCR, ECHO, and the DART worked very closely

together, dividing up responsibilities and resources to address immediate needs in the rapidly changing environment.

In Albania, the DART was severely hampered by security restrictions imposed by the US Embassy resulting from threats. The DART was thus unable to have a presence in key areas of refugee influx and humanitarian need, such as the border. This rendered DART staff unable to conduct regular assessments and recommend actions, and forced them to rely on second-hand information much of the time. Nevertheless, OFDA was still a critical player and, given UNHCR's inadequate leadership, was instrumental in guiding the humanitarian response. For example, OFDA funded a grant to conduct an assessment of Albanian host families in an effort to determine appropriate intervention strategies aimed at increasing the number of families willing to host Kosovar refugees. OFDA also secunded an individual to UNHCR to coordinate with the Albanian government and relief agencies. This post proved to be a key link in the development of a comprehensive response strategy.

Success Story: The sudden rush of hundreds of thousands of refugees across the Macedonian and Albanian borders within days overwhelmed the humanitarian community. While refugees amassed at the border in abysmal conditions without facilities and few options for accommodation, OFDA mobilized airlifts of tents, plastic sheeting, water jugs, other essential relief items, and emergency food rations from its stockpiles in Italy and the US. As a result, OFDA materials literally saved the lives of thousands of refugees.

Table 4.3b:Phase II OFDA-Supported NGO Activities in Albania--FY99

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
1	**Action Against Hunger**	**Emergency Response to Refugees** Support maternal, infant and child nutrition through distribution of food, provide hygienic support for children, monitor nutritional status of children, provide safe drinking water supply, and build latrines. *Region: Kukes, Korce and Tirana*	30,000-Children under 5 and lactating women Objective II: 20,000-refugee population 30,000-host communities	$1,499,491
2	**Children's Aid Direct**	**Essential Children's Services** Provision of family hygiene and kitchen kits, linen supplies, psychosocial services, and baby care centers. *Regions: North, southeast, Korce, Burrel, Elbasan, and Livrazhd.*	25,000 refugees 25,000 host family 25,000 indigenous children 1,200 mothers and babies	$2,508,510
3	**Catholic Relief Services**	**Emergency Response to the Kosovo Crisis** Distribute water, fruit, biscuits and other food. Provide assistance "with a human face" by social workers to listen to refugees. Furnish cooking equipment, blankets mattresses, clothing, shoes and hygiene kits. Respond to psychosocial through trauma counseling. Provide recreation and education activities, self community development activities with focus on women. Development of refugee leadership and governance structures. Region: Tirana, Kukes, Durres, Elbasan and Fier	Objective I - 100,000 Objective II and III - 150,000 in Kukes 40,000 in Durres, 40,000 in Tirana, 20,000 in Elbasan, 40,000 in Kukes and 10,000 in Fier.	$2,000,000 1st Tranche
4	**Intl. Medical Corps**	**Host Family Assessment** Conduct assessment of the conditions of the Albanian host families in order to determine appropriate intervention strategies aimed at increasing the number of families willing to host Kosovar refugees. *Region: Kukes, Has, Tirana, Kruma and Durres*	Kosovar refugees and vulnerable local residents, particularly women children and the elderly.	$81,563
5	**MERLIN**	**Emergency Health** Decrease morbidity and mortality. Support preventive health care facilities for refugees and local population, support local health authorities and MOH, and build capacity, develop emergency response capacity. *Regions: Korce-Pogradec, Shkoder.*	20,000 refugees and host population	$1,190,000
6	**Solidarites**	**Distribution of Baby Food and Hygiene Parcels** Distribution of baby food and baby hygiene parcels to Kosovo refugees and to Albanian host families, set up of a 47 MT local transport capacity. *Regions: Fier, Beirat and Vlora.*	8,000 refugee babies and children 1,000 host families	$1,537,400
7	**Save the Children**	**Emergency Psychosocial Assistance for Children** Ensure that children are rapidly engaged in activities that promote their psychological recovery from the trauma of the conflict. Enrolling children in semi-structured activities will do this as preparation for integration into formal schooling.	15,000 refugee children 520 Kosovar teachers	$1,020,935

TOTAL FY99 OFDA FUNDING FOR ALBANIA **$9,837,899**

Table 4.3c:Phase II OFDA-Supported NGO Activities in Macedonia--FY99

	NGO	ACTIVITY	BENEFICIARIES	REALIGNED	FUNDING
1	**Children's Aid Direct**	**Provision of Non-Food Items** Distribution of 3,000 kitchen kits, 9,000 hygiene kits, 3,000 baby hygiene kits, 3,000 linen kits, 7,000 adult underwear and 11,000 children's' underwear. *Region: Gostivar*	3000 families consisting of refugees host families and Total - 18,000	$78,738	$889,718
2	**CARE**	**Procurement of Relief Items** Reprogramming funds to procure 3,000 mattresses for Kosovo, 15,000 mattresses for Macedonia and second hand clothes.		$350,000	
3	**CRS**	**Host and Social Case Family Housing Support** Provide support to social cases and Kosovar refugee host families in Kumanovo Municipality through the provision of basic structural and winterization repairs. CRS will provide heating equipment and fuel to improve the living conditions of social cases and refugees.	650 host families 550 social cases		$1,762,278
4	**Doctors of the World**	**Emergency Health** Provide curative health care, set up referral system, promote health education programs and construct and maintain a reliable surveillance system that tracks morbidity and associated demographics. *Region: Senekos Camp*	1,800 refugees	$62,500	$182,752 $111,807
5	**Doctors of the World**	**Food Parcel Stockpile** Develop procurement, production and warehousing capabilities to ensure adequate, appropriate, and easily distributed food stocks for eventual return to Kosovo. Increase border-entry rations.	200,000 refugees 400,000 Kosovars in Kosovo		$2,753,264
6	**Intl. Cath. Migration Commit.**	**Community Services in Stenkovac I** Improve camp-wide services to girls and women by providing recreational and therapeutic activities including support groups, meeting place, intergenerational activities, handicrafts and training programs plus psychosocial services. *Region: Stenkovac I Camp*	All camp residents		$120,245
7	**Intl. Rescue Committee**	**Water and Sanitation** Provide contingency stock of water and sanitation equipment and supplies. Water tanks and containers for storage and distribution of water plus water treatment and hygiene materials including medical waste incinerators. *Region: Stankovac I and II and Neprosteno Camp.*	5,000 to 50,000	$647,334	
8	**Intl. Rescue Committee**	**Procurement Cell** Improve response capacity of humanitarian agencies engaged in Kosovar refugee programmes by providing immediate, proximate access to a comprehensive stock of essential relief supplies and rehabilitation material.	All aid organizations		$3,000,000 $3,000,000

	NGO	ACTIVITY	BENEFICIARIES	REALIGNED	FUNDING
9	**Intl. Rescue Committee**	**Winterization House Repair** Repair of windows, doors, walls, roofs, floors, and provision of heaters and fuel for host families. *Region: Cair Municipality*			$844,750
10	**Mercy Corp Intl.**	**Extension - Food Distribution Program** Provision of blankets, stoves, sleeping pads winter boots, hygiene packs, flour, sugar and salt to IDP's.	Basic food-75,000 blankets, sleep. pads-50,000, shoes, socks-		$2,123,930
11	**Mercy Corp Intl.**	**Economic Promotion Program (Liz Claiborne)** Purchase, transport and distribute 240,000 pieces of Liz Claiborne clothing for returning refugees and remainees. Clothing includes: jeans, pants, long-sleeved shirts, fleece jackets. Program will benefit refugees as well as promote employment sustainability.	Will provide over 3,000 jobs.		$880,705
12	**Medecins du Monde**	**Emergency Health Care and Mental Health Support** Provide therapeutic support to camp-settled refugees suffering from psychosocial or emotional troubles. Help women and local communities deal with such problems. Provide emergency essential health and medical care services to refugees arriving from Kosovo. *Region: Macedonia border and Brazda camp.*	Brazda Camp-27,000 Blace Camp-2,000 Border pop. - TBD	$167,932	$162,747
13	**Shelter Now**	**Host Family and Social Case Housing Support** Provide basic repairs to help enclose and insulate houses against winter weather; provide additional heaters and fuel and upgrade the water, toilet and bathing facilities to allow basic sanitation in a winter environment.	570 houses total - 241 refugee families 329 social cases		$690,050
14	**Solidarites**	**Water and Sanitation** Provide sufficient potable water supply and sanitation infrastructures to refugees settling in camps. *Region: Senekos Camp*	2500 refugees	$104,116	$305,710
15	**WFP**	**Extension - Air bridge** Provide a regular air transport service to move all relief workers, documents, equipment, and/or other relief inputs between Rome and Albania and Macedonia by passenger airplane. Provide adequate capacity to match demand			$500,000
SUBTOTALS				**$1,410,620**	**$17,659,796**

TOTAL FY99 OFDA FUNDING FOR MACEDONIA (reprogrammed plus FY99 funding) **$19,070,416**

PHASE III

Objectives. Upon the return of refugees to Kosovo, OFDA's objectives focused on saving the lives and reducing the suffering of those who had remained in Kosovo during the bombing, the internally displaced, and the returnees throughout the emergency period. Initially, during a massive rush to return to a province facing non-existent social services and significant destruction, OFDA's goal was to help stabilize the population with the provision of essential goods and services. Later, as assessments were conducted and cold weather approached, OFDA and other donors focused on preparing for winter, and, in particular, on providing emergency shelter.

Programs. OFDA had 21 implementing partners, including18 international NGOs, and three UN organizations, through whom it funded 26 grants or 35 programs. OFDA's programs targeted well over 1.5 million beneficiaries, with its shelter programs alone affecting possibly 290,000.

As in Phase II, OFDA collaborated very closely with other donors and UNHCR in the design and delivery of relief assistance. CRS, and MCI, and IRC distributed emergency food packages and IRC airdropped emergency food packages to displaced populations during the bombing. IMC, IRC, PSF, and AAH provided emergency health care and developed the technical capacity of the health system, and ADRA, IRC, and Solidarites helped restore clean drinking water and rehabilitate sanitations systems.

OFDA funded MCI, CARE, FAO, and WV to rehabilitate the agricultural sector and thereby restore livelihoods as well as reduce future dependency on emergency food rations. By far the biggest sector for which OFDA funded 15 grants was the emergency shelter sector targeted at housing thousands of displaced people.

OFDA also transferred funds to USAID's ENI bureau for various programs. Total FY1999 OFDA funding for Phase III was $84,552,613, including $64,335,965 for grants, $2,035,670 for material transport and $18,180,978 for commodities. (see Table 4.3d).

In addition to funding NGO implementing partners, OFDA used the Relief Management Services contract to establish its own shelter material depot to fill a very visible gap in emergency roofing, and later supplemented that with other shelter materials for emergency needs through the winter. Both of these projects were essential to meeting the housing needs of the Kosovar population through the winter. Organizations including NGOs, USAID's Office of Transition Initiatives' community councils, UNHCR and KFOR participated in the program, drawing on the shelter depot to provide missed villages and houses with essential material. As a result, the international community met its goal of ensuring that every Kosovar had a warm, dry room for the winter.

Program Effectiveness

Overall, OFDA-supported interventions saved lives and reduced the suffering of thousands of returnees. Immediately after the end of the air strikes, OFDA's initial objective was to help

stabilize conditions inside Kosovo by providing life-saving materials and services to the 800,000 returning refugees, and to the hundreds of thousands of conflict-affected who had remained. Nearly the entire Albanian population of 1.8 million required assistance of some kind following the end of the air strikes. In anticipation of the return, OFDA had funded two organizations to build food parcels from locally procured goods. These proved invaluable to the return effort, as the packages offered easy-to-prepare foods for returning refugees, many who came home to damaged or destroyed houses.

OFDA-supported water and sanitation interventions were essential to ensuring the availability of clean water in conflict-affected areas. In post-conflict Kosovo, there was great danger of disease outbreak due to contamination of wells, damage to water supplies, and breakdown of infrastructure from conflict or neglect. OFDA well-cleaning programs that targeted 48% of Kosovar households, which depended on shallow wells, were particularly important to rebuild confidence in water quality. While many wells were not contaminated, homeowners often believed that they were, thus making the water supply unusable. The well-cleaning program not only guaranteed good water quality, but also taught community members how to test and treat water sources for future use. Many of those trained under OFDA programs are expected to be involved in developing water board and other municipal structures. OFDA also supplied essential chemicals to purify urban water systems during the early weeks of return when the normal Serb sources were no longer available.

Also during this period, OFDA funded mobile health clinics to provide primary health care to returnees, IDPs, and those who had remained. The condition of health houses and hospitals, the supplies available, and the number of local health specialists were unknown prior to the return. Thus, it was critical that the international community provide emergency services to the large number of returnees and to those who remained until the provincial system could be rehabilitated.

OFDA's funding of food parcel and mobile clinic programs during this initial return period was particularly timely, given the immediacy of the need. Unfortunately, water and sanitation services and one other primary health care program were somewhat late in getting started, causing delays in assistance delivery.

In addition to meeting immediate emergency needs of the returnees, OFDA-supported activities restored health, agriculture, water, sanitation and other essential capacities of the Kosovars. Once humanitarian conditions in Kosovo had stabilized to a large degree, OFDA and other donors focused on preparing for the upcoming winter and looking at longer-term issues. For example, OFDA provided funding to implementing partners in health to rehabilitate clinics, provide technical support to the public health system, and build the capacity to prevent infectious disease. It also supported the development of an Emergency Medical System and ambulance services to address assistance and transport needs for medical cases requiring urgent attention, something that had not existed under the former Yugoslavia system.

Similarly, OFDA was a leader in agricultural interventions, funding three NGOs to procure and distribute winter wheat seed, repair farm equipment, and construct green houses in order to ensure a substantial spring harvest and ultimately reduce dependency on food aid. The

international agricultural rehabilitation effort helped 70,000 subsistence farmers revitalize their livelihoods. OFDA also funded the UN's Food and Agriculture Organization to vaccinate livestock, coordinate agricultural recovery efforts, and conduct agriculture surveillance to monitor nutritional status, food availability, and progress toward greater food security. These programs and those of other donors helped rebuild the livelihoods of the vast majority of Kosovars whose primary income is through agriculture.

OFDA funded approximately 40% of all emergency housing projects, provided two unique programs that were key to filling in final gaps in shelter needs, and was instrumental to developing and implementing the international strategy. In short, OFDA was critical to the humanitarian community's efforts to provide a warm, dry room for all Kosovars for the winter, a goal it ultimately met. *All told, OFDA's shelter program—the largest ever for OFDA—helped house over 290,000 people but at a cost of only $150 per person.* The effort was not without obstacles, however, as funding for some programs was delayed, OFDA's indefinite quantity contract with the IRC to provide lumber faltered, NGOs had significant difficulty procuring wood in the region, and the over-burdened Macedonia/Kosovo border through which nearly all supplies arrived in the province delayed shipments for days or weeks. While other donors' shelter programs met with some of the same difficulties, OFDA's initial shelter programs through its implementing partners were unduly slow to begin. This was very worrisome, given the approach of winter.

The situation drastically improved when OFDA contracted Resource Management Services (RMS) to procure and deliver wood into Kosovo, and made an agreement with KFOR to use one train a day to bring in lumber, thereby bypassing the truck jam at the border. One of OFDA's more innovative shelter efforts in FY 1999 was to fund ARC and ADRA to complete unfinished houses (Kosovo had a stock of approximately 30,000 that were being built slowly over the course of the decade), thereby providing living space for multiple families. While initially bogged down by ownership issues, the program eventually accelerated and has proven to be an important source of emergency housing in Kosovo.

Success stories. The shelter sector promised to be daunting, as over one third of all houses in the province had been damaged during the conflict, winter was rapidly approaching, and almost the entire refugee population in nearby countries had recently returned. OFDA's efforts through funding, and through its role as a catalyst to other donors, particularly UNHCR, successfully addressed the ever-changing gaps. For example, the DART initiated a Winterization Task Force among donors and KFOR, and an Urban Sector Task Force with UNHCR and shelter organizations, both chaired by UNHCR, which were critical organizational tools for motivating donors and targeting specific needs. Through the Winterization Task Force, a logistics cell was made up of humanitarian community and KFOR entities to help facilitate the movement of shelter materials across the difficult Macedonia-Kosovo border.

The inadequacy of the coordination effort to bring together all organizations involved in shelter led to an inability to determine where housing gaps would appear. The DART consequently designed the USAID Depot Program a stockpile of material for nearly 3000 roofs to be requested and distributed by NGOs, community leaders, and others. OFDA hired RMS to procure and deliver the wood for the roofs, and Brown and Root Services to build and help operate the depot.

The professionalism of these two organizations resulted in efficient delivery of roughly a trainload a day of lumber into the region and a very smooth-running operation. OFDA supplied the plastic sheeting for roof surfaces. Between November and January, the depot operation filled the emergency shelter needs of over 6,000 families who otherwise would have gone without.

Later, the DART recognized the potential need for all emergency shelter material and designed the Emergency Response Initiative (ERI). Through the depot, the ERI supplied such items as windows, doors, carpeting, insulation, stoves, and emergency roofs to families whose homes were leaking, cold, had holes in the walls, had bare earth floors, or who were living in extremely overcrowded conditions with relatives or neighbors. NGOs, the UN, other donors, KFOR, and communities requested the material and the DART immediately trucked items to the location. Like the depot program, the ERI was a life-saving measure that reduced the suffering of thousands of Kosovars during the winter.

For a comparatively small amount of money, OFDA funded PSF to develop the laboratory and technical capacity in Kosovo and IRC to increase the capacity of the public health community in epidemic prevention and preparedness. The former grant included the distribution of diagnostic laboratory equipment, and both grants addressed training of field-level health technicians. The result was a significant improvement in local capacity to diagnose and prevent infectious diseases, thereby preventing major outbreaks. It further supported the development of the Kosovar health structure, ultimately leading to a reduction in the need for international assistance. In essence, minimal OFDA funding was leveraged for maximum and long-term gain.

Within a few days of returning, the DART learned that the supply of chemicals to purify the urban water supply was quickly dwindling since it was no longer coming from Serb sources. The DART immediately ordered an emergency supply through its IQC with IRC and was able to keep the drinking water in Pristina and other cities from becoming contaminated until an alternative source could be found. This prevented potential exposure to illness of tens of thousands of people who were flocking back to Kosovo.

General Observations

The Kosovo humanitarian crisis was a fast-moving, politically loaded, complex emergency involving three countries. It brought hundreds of millions of dollars in relief aid, drew enormous media attention, and mobilized the entire array of human resources including a multi-national military response, contractors/businesses, donors, and hundreds of NGOs—many of which were new to humanitarian assistance.

The effort faced many problems. The inability to access hundreds of people in need during the pre-bombing phase kept the humanitarian community's hands tied. The lack of preparation and excruciatingly slow arrival and staffing of UNHCR's operational capacity in Albania and Macedonia created major void in leadership that initially prevented a robust and timely response. In the early refugee crisis and upon the return, many NGOs lacked the capacity to provide adequate quantity and quality of needed assistance. Later, the slow pace of procurement and huge problems in logistics, including the backlog of trucks at the Macedonia/Kosovo border, caused major delays in providing adequate emergency housing. Finally, the lack of

comprehensive coordination that included all bilateral donors and NGOs during all phases stymied the humanitarian community's response.

Despite these difficulties, the three phases of OFDA relief operations were ultimately successful at averting a large humanitarian disaster. During the pre-bombing phase, humanitarian assistance, provided under very dangerous and difficult circumstances to approximately 400,000 Kosovars who had been displaced during the conflict, staved off what could have been immense suffering. In Macedonia and Albania, relief organizations provided shelter, food, and material needs to over 800,000 refugees in some very remote areas and in a politically volatile environment in an extremely short time. Upon return to Kosovo, the humanitarian community re-established services and ultimately assisted over 100,000 families with housing in the fastest refugee return in history. Throughout the winter of 1999-2000, not one Kosovar froze or starved to death due to lack of food or shelter.

OFDA's contribution to this effort during FY99 was pivotal. It provided critical supplies and services that saved lives and reduced the suffering for hundreds of thousands of Kosovars during all phases of the crisis, such as the provision of critical chemicals that prevented urban water systems from getting contaminated. OFDA helped re-establish wheat production in the fall that will dramatically increase food security in Kosovo over the next year. In the same vein, it contributed key components to the health sector to encourage a rapid recovery and the growth of local capacity. Most visible of all, OFDA was the largest donor to the successful housing rehabilitation effort that ultimately quelled a shelter emergency. Finally, the DART's inputs into the international humanitarian strategy served repeatedly as a catalyst for action for the relief community.

In sum, the efforts of OFDA and other donors in FY1999 addressed critical humanitarian needs and averted a secondary disaster during the winter months. If all goes well in both the reconstruction phase and the efforts to calm political and ethnic tensions this fiscal year, Kosovo will begin to grow in its development and no longer require the assistance of emergency organizations.

Table 4.3d: Phase III – OFDA Support for Returnees to Kosovo

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
1	**Catholic Relief Services**	**Emergency Food Parcel Distribution** Procure, preposition, and distribute 200,000 ready to eat food parcels to meet the minimum emergency food requirements for 100,000 beneficiaries over a 6 day period. Food packs contain: water, milk tinned fish, dry bread, and baby food.	100,000	$1,652,585
2	**IRC**	**Airdrops**		$184,946
3	**Mercy Corp Intl.**	**Emergency Food Parcel Distribution** Procure and assemble 200,000 emergency portable food packs for distribution to IDP's inside Kosovo immediately upon return. Packs will serve 100,000 individuals for 6 days. Each pack provides a three day supply of rations for one person. Packs include: dry bread, jam, milk, water and sardines.	100,000	$1,636,340
				$ 3,473,871
4	**IMC**	**Health Care Infrastructures** Provide emergency primary health care through mobile clinics and support to static structures. *Region: Kacanik, Vilina, Fnjifane, Kamenica Urosevac, Stimlje, Vucitrn,* *Mitrovica, Klina, Zvecan, Podujevo, Lipljan, Novo Brdo.* **No Cost Extension**		$2,254,858
5	**IRC**	**Integrated Primary Health Care** Address health needs of Decane population through the implementation of an integrated program that includes emergency rehabilitation of health facilities, primary health care services, public health interventions, reproductive health services and a program for victims of sexual and gender-based violence. *Region: Province Wide*		$599,934
6	**PSF**	**Laboratory Rehabilitation and Training** Provide technical capacity to support the Ministry of Health, health houses and ambulantas. Includes the distribution of diagnostic laboratory equipment and training of field level health technicians. *Region: Province Wide*		$500,000
7	**IRC**	**Epidemic Prevention and Preparedness** Increase the capacity of the public health community within Kosovo to prevent excess morbidity and mortality due to infectious diseases through an integrated program of epidemic prevention and preparedness. *Region: Decane*		$879,790
8	**Action Against Hunger**	**Monitor and Improve Nutritional Status of Mothers and Children**		
				$ 4,234,582
9	**ADRA**	**Emergency Water and Well Rehabilitation** Emergency water system rehabilitation, well cleaning, sanitation services in rural communities. *Region: Urosevac, Eastern Prizren, Stimlje*	1,600 families	$1,314,387

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
10	**IRC**	**Water and Sanitation Program** Provide emergency water and sanitation in rural areas including well cleaning, water systems rehab., latrine construction and rehabilitation, water testing and capacity development of IPH for water quality analysis. *Region: Pec, Istok, Klina, S.Orahovac, Suva Reka, Strpce, Prizren, Gora, Lipljan, Novo Brdo, Kamenica, Gnjilane* **No Cost Extension**		$4,153,344
11	**Solidarites**	**Water Supplies, Analysis and Well Cleaning** Emergency water supply, testing and well cleaning.		$466,434
				$ 5,934,165
12	**ARC**	**Emergency Shelter Assistance** Emergency habitability and winterization program. program. *Region: Stimlje, Vitina, Gnjilane, Novo Brdo, Kamenica*	1,500 houses 12,000 people	$1,736,034
13	**ARC**	**Urban Shelter Winterization** Emergency shelter assistance to host families in the city of Gjilane. of Gilane. **Rural Augmentation** **No Cost Extension** **No Cost Extension**	413 roofs 1239 families	
14	**ADRA**	**Upgrading of Unfinished Houses (Urban)** Provide winterized housing for up to 750 returnees and IDP families and IDP families. *Region: Pristina, Gjakova, Mitrovica, Ferizaj.* **No Cost Extension**	260 houses 780 families	$1,168,972
15	**ADRA**	**Urban Housing** Provide winterized shelter for up to 600 vulnerable families.	200 houses 600 families D20001032	
16	**CARE**	**Warm Dry Room Project** Develop and deliver a comprehensive intervention plan whereby approximately 3,800 beneficiary families will receive shelter assistance. Conduct fuel needs assistance, and feasibility assessment. *Region: Lipljan, Urosevac, Kacanik*	3,800 houses 30,400 people	$4,467,337
17	**CARE**	**Warm Dry Room Project - East Corridor** Develop and deliver a comprehensive intervention plan whereby approximately 3,800 beneficiary families will receive shelter assistance. *Region: Kosovo Polje, Oblic, Rural Pristina, Podujevo.* **No Cost Extension**	3,800 houses 30,000 people	
18	**Cooperative Housing Foundation**	**Urban Housing - Winterization Program** Ensure sufficient housing for 1,450 families. *Region: Djakova and Decani* **No Cost Extension**	1,450 families	$651,716
19	**CONCERN**	**Emergency Shelter Rehabilitation** Ensure sufficient housing for 700 families in Peje. **Cost Extension**	9,800 beneficiaries (700 families)	$874,995

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
20	**Food for the Hungry**	**Kosovo Warm Room Project** Provide at least one warm room per family for the winter season. *Region: Prizren, southwestern Kosovo* **Cost Extension for Rural Augmentation** **No Cost Extension**	1,400 houses 11,200 people 413 houses 826 families	$569,931 $627,184
21	**GOAL**	**Urban Shelter Winterization in Peje** Winterize living space in 300 houses so as to maximize accommodation for occupants and guest families. **No Cost Extension**	300 houses 900 families	$636,255
22	**IRC**	**Shelter Rehabilitation Program** Emergency habitability and winterization program. program. *Region: Decane, Djakovica, Pec, Orahovac, Klina, Istok, Gora, Glogovac, Prizren, Serbica, Strpce, Suva Reka.* **No Cost Extension**	6,720 houses 53,760 people	$4,231,569
23	**IRC**	**Urban Winter Shelter Program** Ensure sufficient winterized housing is available and occupied by the maximum number of persons at the onset of winter in urban areas of Peja and Decane. **Rural Augmentation** **No Cost Extension**	650 houses 1,950 families 950 houses 6,720 families	$1,000,000
24	**MEDAIR**	**Winterization Shelter Program** Provide both material and technical building support and the distribution of essential non-food items. Encloses one warm, dry and secure living space for a family. **Cost Extension** **No Cost Extension**	100 urban homes 900 rural homes	$314,500
25	**Relief International**	**Shelter/Winterization** Emergency habitability and winterization program. **No Cost Extension**	244 houses 2,064 people	$617,399
26	**World Vision**	**Shelter and Winterization Proposal** Emergency habitability and winterization program. programs. *Region: Mitrovica, Vucitrn, Leposavic, Zvecan and Zubin Potok.* **Rural Augmentation** **No Cost Extension**	3,000 houses 24,000 people	$1,205,845 $1,637,383
27	**IRC/IQC**	**Indefinite Quantity Contract** Shelter materials		$3,485,605
28	**RMS**	**Procurement and Transport** Contract for procurement and transportation of timber in support of shelter program in Kosovo.		$10,500,000
29	**Missn Allot.**	Local purchase of shelter commodities		
				$ 33,724,725
30	**MCI**	**Winter Wheat** Procurement and distribution of 9,100 MT of winter wheat for 15,740 farm families.	15,740 farm families 94,440 people	$3,949,148

	NGO	ACTIVITY	BENEFICIARIES	FUNDING
31	CARE	**Agricultural Rehabilitation** Support for winter wheat planting, farm equipment repair, construction of tunnel green houses, distribution of food preservation materials. **No Cost Extension**		$657,966
32	FAO	**Ag. Security Surveillance** Ensure the provision of timely, accurate and reliable information on rapidly changing conditions through regular monitoring of the agricultural situation, nutritional status, food availability, and the progress made in the reestablishment of agricultural production and food processing capabilities in the province.		$628,425
33	FAO	**Coordination of Emergency Ag Relief** Facilitate coordination efforts of the international emergency agricultural recovery programs. Ensure quality at all levels of the program cycle.		$686,000
34	FAO	**Livestock Vaccination** Support the international effort to resume agricultural. Production of animal products through the vaccination of livestock to contain further losses and increase animal productivity.		
35	MCI	**Agriculture Recovery Program** Support for winter wheat planting, farm equipment repair, construction of tunnel green houses, distribution of food preservation materials.		$1,581,256
36	World Vision	**Agriculture Recovery Program** Support for winter wheat planting, spring crops planting, farm equipment repairs, construction of tunnel green houses. **No Cost Extension**		$3,490,827
				$ 10,993,622
37	WFP	**Reporting System in Kosovo** Monitor and track all food assistance into Kosovo. **HDR Reimbursement**		$275,000
38	USAID/ENI	**Fund Transfer to ENI Bureau for various programs.**		$5,200,000
39	OCHA	**Coordination Activities** Support and strengthen humanitarian coordination.		$500,000
				$ 5,975,000

CENTRAL AMERICA – HURRICANE MITCH

Highlights

- OFDA's quick disaster response saved thousands of lives and alleviated the suffering of millions of people temporarily displaced by Hurricane Mitch.
- OFDA's support to affected Central American countries provided emergency shelter, water, sanitation, emergency health services and food millions of people.
- OFDA's strategic approach to disaster response in Nicaragua repaired a strained relationship and forged a new ties between the United States Military and the Nicaraguan Military.
- OFDA's mitigation activities not only restored agricultural and health capacities of the assisted countries, but also provided badly needed new and improved seed varieties based on the local germplasm to farmers who had lost their seed stocks. The new seed varieties significantly increased farm productivity.
- The manner in which OFDA relief activities were implemented effectively averted disease epidemics and stemmed the outbreak and spread of waterborne diseases.

Overview

Hurricane Mitch was a category 5 storm that led to the worst regional disaster in recorded history. OFDA was quick to arrive on the scene in four of the hardest hit Central American countries in late October 1998, leading efforts that saved countless lives, reduced human suffering and mitigated the effects of the disaster.

Numerical estimates vary widely among different sources, but as a whole they suggest that sixty percent of the total land mass spanning four Central American countries (Honduras, Nicaragua, Guatemala and El Salvador) was affected by sustained torrential rainfall, flooding and high winds. As summarized in Table 4.4a below, more than 9,900 people were killed, mostly buried alive in massive landslides that wiped out whole villages. Almost equal numbers were missing and another 12,500 were injured. Over 2 million people were temporarily dislocated while the homeless numbered in the hundreds of thousands. Estimates suggest a 70% crop loss among subsistence-level farmers and upwards of a 35% loss of the harvest of staple foods for domestic consumption. Countless km of roads, 479 bridges and nearly 2,000 aqueducts were severely damaged or were completely wiped out, making land travel nearly impossible and cutting off water supplies to vast numbers of people.

The timeliness and scope of OFDA activities were critical in saving lives and reducing human suffering as well as thwarting civil unrest, mass migration and widespread outbreaks of life-threatening diseases. OFDA accomplished this by effectively channeling and leveraging critical resources for opportune and effective emergency relief efforts.

Table 4.4a: Social Impact of Hurricane Mitch in Central America

Country	Killed	Missing	Injured	Affected	Evacuated	Households Affected	Bridges Affected	Aqueducts Damaged
Honduras	6,600	8,052	11,998	1,393,669	2,100,721	41,420	215	1,683
Nicaragua	2,823	885	254	368,261	867,752	21,625	63	79

Guatemala	268	121	280	108,607	104,016	10,372	121	60
El Salvador	240	29		84,005	49,000	965	10	155
Costa Rica	4	4		307	5,500	1,933	69	12
Panama	2			8,408	602		1	
Belize					75,000			
Total	**9,937**	**9,091**	**12,532**	**1,965,957**	**3,202,591**	**76,315**	**479**	**1,989**

SOURCE: CEPREDENAC, 1999: PAHO / WHO - Revista Masica, 1999. In: Disaster and Institutional Response, Richard Olson et. al, 1999

OFDA efforts in Honduras and Nicaragua are discussed in this case study, since these two countries were by far the hardest hit by the disaster (see *Table 4.4a*). They are also discussed separately, because OFDA-funded programming was different in each of these two countries. Initially, OFDA efforts were directed at saving lives and reducing human suffering by providing search and rescue services, water, food and shelter. In addition to these immediate relief efforts, to reduce vulnerability and avert further loss of lives and suffering, OFDA began to implement mitigative and rehabilitative activities.

In all affected countries, the poorest communities sustained the most damage. Many people lost their homes, farms and livelihoods. The effect of Hurricane Mitch on these poor communities was exacerbated by pre-existing conditions, notably:

- Precarious housing located on lands highly vulnerable to landslides;
- Extraordinarily high deforestation rates (338,000 hectares annually);
- Unsustainable hillside agriculture practices;
- Prolonged drought brought on by El Niño (El Niño Southern Oscillation, or ENSO), coupled with wildfires on over 5% of the land area in the two years prior to Hurricane Mitch.

A. Honduras

Objectives. During the disaster response phase, OFDA's objective was to save lives and reduce human suffering. In the disaster mitigation phase, OFDA aimed at stabilizing the population and alleviating the suffering of the people most affected by the hurricane. Assistance was channeled towards meeting the physical and social requirements of nearly one and a half million displaced people, who were at least temporarily uprooted from their homes or lost their livelihoods, and tens of thousands of people who were still living in emergency shelters.

Programs. During the disaster response phase, OFDA coordinated, mobilized, and channeled resources on search and rescue operations, damage and needs assessments, restoration of water supplies, emergency shelter, distribution of humanitarian supplies, and emergency health. OFDA funding was channeled to 17 partners targeting the 1.5 million most vulnerable people directly affected by Hurricane Mitch at a total cost of $18,950,549 (*Table 4.2*).

Once the direction of Hurricane Mitch was determined, OFDA mobilized DART teams and pre-positioned relief supplies such as plastic sheeting for emergency shelters, water storage bladders, water jugs and body bags as early as October 30, 1998. Through the Department of Defense

(DOD), OFDA contracted helicopter blade time and fixed wing flights for search and rescue operations, over-flight damage and needs assessments and transport of emergency supplies and materials. Air transport was critical since more than 70% of the country's roads and bridges were severely damaged or completely destroyed. OFDA-chartered flights airlifted, in three days, well over 1,000 metric tons of Title II food into the country to meet immediate food needs of the affected population.

OFDA-sponsored damage assessments revealed that:

- 80% of the nation's water and sanitation systems were either damaged or destroyed by Hurricane Mitch and most of the population was without potable water;
- Hundreds and thousands of families were left homeless;
- 70% of households in the affected area lost their food stocks, farms and farm animals. Most of the farms destroyed belonged to subsistence farmers.

OFDA responded immediately to the urgent need to restore the water supply system with a $1 million grant to the Government of Honduras' (GOH) Water and Sewage Authority (SANAA). SANAA began work with a collaborative group already in place for the water sector. In addition, grant funds were provided to private and voluntary organizations to provide potable water, containers and supplies, to repair, construct and remove debris from water systems, to chlorinate and protect water sources against contamination, and to repair and construct latrines. OFDA grants to the water and sanitation sector were vital to saving lives and for mitigating the imminent threat of disease outbreaks.

A $1 million grant was given to the Honduran Social Investment Fund (FHIS) that issued sub-grants to local contractors through a public bidding process. FHIS together with SANAA coordinated activities with four PVOs (CRS, Aldea Global, SCF, and WV) as well as with mayor's offices, often through the Honduran Municipalities Association (AMHON). These efforts resulted in a significant building and restoration of water and sanitation infrastructure at the municipal and community level.

Shelter was the biggest program area of OFDA assistance and, in most cases, temporary shelter activities also entailed the distribution of non-perishable food items such as powdered milk, and critical household supplies like kitchen utensils, soap, kerosene, blankets and bedding. As Hurricane Mitch subsided, an estimated 285,000 people sought refuge in emergency shelters (schools, churches, community centers and even stadiums), where conditions were cramped, unsanitary, and often unsafe, and where meeting basic human needs was difficult to impossible. OFDA funded the International Office for Migration (IOM) with a $4.1 million grant, which helped address mounting pressure to evacuate emergency shelters, especially schools, prior to the beginning of the 1999 academic year. Shelter was also a primary focus for the Cooperative Housing Foundation that received $499,885 in OFDA funding.

In order to enhance the food security of the affected population and restore the agricultural capacity of Honduras, OFDA gave grants to two local Non-Governmental Organizations (NGOs), the Honduran Agricultural Research Foundation (FHIA) and the Zamorano Agricultural

School dedicated to the production of pest-resistant, and high yielding, hybrid planting plantain and beans seed varieties.

Eleven OFDA grants were awarded to 7 PVOs for integrated disaster relief and humanitarian assistance, totaling $5,697,235 *(see Table 4.4b)*. The initial 7 PVOs were: CARE; Catholic Relief Services (CRS); Project Aldea Global (PAG): Save the Children (SCF); Project HOPE; World Relief; World Vision. These PVOs were provided grants for the provision of water, sanitation, locally purchased food, shelter, clothing, humanitarian supplies and emergency health services. For four these grantees (CARE, CRS, Aldea Global and SCF) shelter was a key component of their disaster response grant proposals.

A $1.01 million grant to the Pan American Health Organization (PAHO) was directed at the provision of emergency health care. PAHO distributed medical supplies and assisted in the repair and rehabilitation of health facilities. Overall, PAHO used grant funds for the provision of basic health services, prevention, surveillance and control of disease outbreaks, opportune provision of water supply systems in rural and urban affected areas, replacement of essential equipment and the restocking of essential medicines and health supplies, support to general logistical requirements, education and health promotion, and solid waste management (installation of latrines). PAHO rehabilitated 123 health facilities damaged by the hurricane. OFDA's assistance to the health sector was critical to the prevention of outbreaks of disease and to providing primary health care at emergency shelters located throughout the country.

Effectiveness of OFDA Disaster Response in Honduras: Hurricane Mitch took an unpredictable course, as it turned west rather than north from the Caribbean into Central America and then loomed unexpectedly over Honduras for several days, provoking delays beyond human control in bringing in air support, relief supplies and attending to victims' needs. Before this course change, the mission showed foresight by keeping in daily communication with the Director of the regional OFDA office in Costa Rica and establishing a Mission Operations Center, which assisted overall disaster preparedness.

In anticipation of the projected course of the hurricane, OFDA had coordinated the deployment of select USG resources to Guatemala and Belize. Once the hurricane unexpectedly headed west and then south, hovering over mainland Honduras, pre-positioned OFDA commodities from its Panama and New Windsor, Maryland warehouses were mobilized and transported into Honduras as soon as weather permitted. OFDA successfully negotiated more air support, thus increasing its installed capacity for rescuing hundreds of people stranded on roof-tops and tree branches, as well as for air drops of critical supplies.

Contributions of un-requested materials from the US public were flooding the country with unwelcome communications requirements and donated goods, burdening an already stressed system. OFDA provided valuable coordination and advice on channeling communications and offers of assistance. As a result of OFDA's efforts, a system was created to prioritize, channel and redirect incoming communications to the mission operations center. In addition, OFDA engaged VITA to coordinate private assistance offers which relieved the mission of this burden and allowed everyone to more clearly focus on emergency response.

With regard to OFDA assistance to the water and sanitation sector, OFDA grantees were able to restore water supplies to 75% of the population in Tegucigalpa and 37 other cities, remarkably, within 3 weeks. The technical capacity of the countrywide Water and Sanitation Collaborative Group was tapped in order to address the threat of epidemics due to waterborne diseases. It is safe to assume OFDA's support to the water and sanitation sector contributed significantly toward providing safe sources of water in record time, while stemming the onset of epidemics such as diarrhea, cholera, dengue and malaria, leptospirosis and a variety of skin diseases.

Within a few short months after Hurricane Mitch, 400 community water systems and 1,975 latrines were repaired or built, benefiting nearly 650,000 people in 64 municipalities in efforts coordinated by SANAA and FHIS. Contaminating garbage and debris was removed from drainage ditches and roads. Thousands of chlorine packets for water treatment were distributed along with educational messages. Communities were empowered to work with implementing partners to complete these water projects.

OFDA's emergency shelter assistance was crucial to disaster victims who could not make their own shelter or those who could not be housed in available emergency shelter facilities. An estimated 1.4 million people were displaced by the hurricane and 430,000 people were, at one time or another, housed in emergency shelters. The capacity gap in emergency shelter was approximately 145,000 and a total of 285,000 people were reported to have settled into emergency shelter. Given the sheer magnitude of the gap and other contributing factors, many did not make it to shelters and were forced to live in damaged homes or in makeshift shacks. Although many who were displaced by the disaster were able to seek refuge with family members, OFDA-funded programs provided plastic sheeting for temporary shelter, which provided a warm, dry living space, and food for those families who had no other recourse.

Following the emergency phase, through OFDA assistance 11,000 homes were repaired or built and 5,000 families were provided temporary shelter. OFDA plastic sheeting and other emergency relief supplies eased the transition from emergency to temporary shelter and again from temporary to more permanent housing since the materials were transportable and often re-utilized. OFDA-funded Temporary Housing Communities, or CHATs, accommodated more than 30% of those left homeless and nearly all of the 30,000 people (5,000 families) who still occupied emergency shelter by the end of 1998. Working day and night, the CHATs were built in a record one-month's time. A starter package of essential household supplies and basic hygiene kits were distributed to each incoming family.

Also worth noting is that 67% of the beneficiaries previously lived under precarious conditions, occupying lands without clear titles. The challenge presented to OFDA was to provide decent and dignified shelter while ensuring that it was not so luxurious that it would compromise a future transition to permanent shelter. Preliminary reports suggest that this challenge has in fact been met and that the real challenges that lie ahead are in acquiring lands with clear titles to build permanent homes. To date, while some families have permanent and improved shelter, many families still rely on OFDA-supplied plastic sheeting to meet their primary shelter needs.

OFDA's emergency health assistance ensured that health services were available to a majority of the disaster-affected population. Through PAHO and other implementing partners, emergency

health services targeted areas of greatest need, and partially filled a vacuum left by the total or partial destruction of many of the country's health facilities. A serious health crisis was averted in the wake of Hurricane Mitch. In fact, an epidemiological study done by an OFDA grantee, World Vision, that compared pre- and post- Mitch morbidity in their catchment area found a decrease in infectious diseases.

Immediately after the hurricane struck, a 20% increase in severe diarrhea and increases in the incidence of other diseases were reported. There were 306 cases of cholera and 75 cases of hemorrhagic dengue reported in the wake of Hurricane Mitch, which were reduced to only 3 and 4 cases respectively for all of 1999. Dramatic improvements were also found in 50,000 cases of acute diarrheal disease, skin diseases and 172 cases of leptospirosis reported by the end of 1998. Many of the accomplishments in reducing the incidence of expected epidemics to pre-Hurricane Mitch levels and even below could be attributed to OFDA's assistance.

With OFDA support, in 6 of the 8 Departments, PAHO rehabilitated, fully equipped and staffed 67 health facilities, 54 rural health facilities, 9 municipal health facilities and 4 hospitals. The OFDA funded PVO, Aldea Global, repaired an additional 17 rural health centers.

Table 4.4b: OFDA Support in Honduras

OFDA Partner	Type of Assistance	Targets/ Beneficiaries	OFDA Funding Level (US$)
OFDA	OFDA provision and delivery of Emergency Relief Supplies: Plastic sheeting for shelter; Water storage bladders; Water jugs, and body bags.	Distributed in the field	519,973
DOD	Department of Defense (DOD) Search and rescue operations, over flight assessments, transport of critical relief supplies and construction materials.		4,000,000
COPECO	Permanent Commission for Contingencies (COPECO): Local purchase of emergency food and relief supplies (buckets and blankets) (Phase 1)		125,000
SANAA	National Water and Sewer Authority (SANAA): Repairs and construction to major water systems (Phases 1 and 2)	Capital city (Tegucigalpa) & 37 municipalities	1,000,000
FHIS	Honduran Social Investment Fund (FHIS): Construction / repair of water and sewage systems (sub-contracted through bidding process).	64 municipalities (640,000 people) 140 water systems 8 sewage systems in 8 secondary cities	1,000,000
FIDE	Investment and Export Development Foundation (FIDE). Local purchase of emergency relief supplies; Emergency health care; Supervision of garbage and debris removal, in areas of economic interest to the tourism industry. (Phase 1)	Bay Islands	50,000
CARE	Emergency food (not FFP) and relief supplies (Phase 1) Tools, materials and equipment for reconstruction activities in conjunction with the Food for Work Program (Phase 2)	9 Depts. / 63 communities 205,000 people 1,000,000 people	100,000 2,133,000
CRS	Catholic Relief Services (CRS): Distribution of emergency medicine and critical relief supplies. (Phase 1) Repair of housing, water systems (incl. latrines), bridge and road repairs; distribution of basic household items. (Phase 2)	7 Depts. /43 communities 4,000 homes repaired 54 water systems repaired 214 latrines 20,000 families received essential household supplies	100,000 1,120,000
Aldea Global	Main transportation and communication infrastructure; Emergency commodities; Critical medical care; Shelter; and, Water/sanitation. (Phase 1). Secondary and tertiary transportation and communication infrastructure; Rural staffing, outreach and repair of health centers; Emergency planting; Housing; and, water systems, inc. latrines. (Phase 2)	4 Depts. and 19 communities 169 km roads 17 Health Centers repaired 1,500 mz. corn and beans planted 391 homes repaired 245 homes constructed 240 village /	100,000 232,560

OFDA Partner	Type of Assistance	Targets/ Beneficiaries	OFDA Funding Level (US$)
		municipal water systems repaired 450 latrines constructed	
Save the Children	Emergency food (not FFP) and clothing; Health care outreach to families; Medical supplies to health facilities; Housing repairs/ construction; and, Water and sanitation. (Phase 1) Housing construction; Water and sanitation; School repairs (Phase 2)	4 Depts. and 19 communities 2,000 homes constructed 55 water systems repaired 1,100 latrines functioning 39 schools repaired	100,000 1,511,650
Project HOPE	Assistance to emergency shelters: Water and sanitation; Control of respiratory disease and diarrhea; Bedding for children, pregnant women and elderly; Stoves, tables and kitchen equipment. (Phase 1)	23 emergency shelters and 1 macro shelter in the greater Tegucigalpa area	100,000
World Relief	Local purchase and distribution of emergency food, clothing and medicine. (Phase 1)	6 Depts. and 14 communities 11,000 families	100,000
World Vision	Water system reconstruction and chlorine packet distribution; Health care outreach; local purchase and distribution of critical household supplies. (Phase 1)	4 Depts. / 10 communities 21 water systems repaired 31,000 chlorine packets dist. 20,000 health care visits (incl. psychological trauma) 2,500 families received critical household supplies	100,025
FHIA	Honduran Agricultural Research (FHIA), agriculture / food security (Seed production): Plant hybrid disease resistant plantain seedbeds. (Phase 2)	5 Departments Enough seed produced to replant 1,000 hectares in 18 months (by July 2000), benefiting small farmers	144,000
Zamorano	Zamorano Agricultural School, agriculture / food security (Seed production): Plant high yield, pest-resistant red bean seedbeds. Distributed through NGO network in time for the May planting season. (Phase 2)	65 hectares (plus 11 acres) planted	95,533
AMHON	Honduran Municipalities Association (AMHON): Reimbursement for emergency expenses; Mud and debris removal from drainage systems, streets and homes. (Phase 1)	20 hardest hit municipalities	699,923
CHF	Cooperative Housing Foundation (CHF): Temporary shelters and latrines	46 communities 1,740 temporary	499,885

OFDA Partner	Type of Assistance	Targets/ Beneficiaries	OFDA Funding Level (US$)
		shelters for 10,250 people 610 latrines	
PAHO	Pan American Health Organization (PAHO): Provision of health services; Prevention, surveillance and control of outbreaks; Medical supplies and repairs to health facilities (Phases 1 and 2)	Nation-wide 80 health centers repaired	1,010,000
IOM	International Office for Migration (OIM): Transitional macro-shelters and start-up kits provided to each family (Phase 2)	5,000 families 30,000 people	4,109,000
TOTAL			**18,950,549**

B. Nicaragua

Objectives. As was the case in Honduras, OFDA's primary objectives in Nicaragua were saving lives and reducing the suffering of the hurricane-affected population.

An initial OFDA damage assessment revealed that 71 bridges and 70% of the nation's primary and secondary roads were damaged, isolating entire cities and communities. Thousands of homes were destroyed or severely damaged and crop losses ranged from 70% to 100%. OFDA's immediate priority focus was to meet the emergent needs of those isolated communities and those directly affected by the hurricane. Post Hurricane Mitch, OFDA sought to stabilize the population by enhancing food security, preventing disease outbreaks and epidemics, and by sheltering homeless families.

Programs. OFDA funding was channeled to 32 partners targeting communities hit hardest by the hurricane, especially in northern, eastern and western Nicaragua as well as residents living along Lake Managua. OFDA obligated $8,050,300 (see *Table 4.3*). USAID/Nicaragua made most of the programming decision with regard to the use of these funds.

During the disaster response phase, DART teams came to Nicaragua immediately after Hurricane Mitch made landfall. It was clear early on that emergency disaster assistance would require the support of US military capabilities (airlift, communications, logistics, etc.). During this phase, OFDA negotiated and obligated $1.2 million for DOD to airlift emergency food, medicine and supplies.

Of the remaining rapid response activity funds, $245,000 was disbursed in the form of 19 small donations to 17 requestors for emergency supplies. The $245,000 OFDA response donations targeted 11 priority municipalities and provided building materials, medicines, training materials, radio commercial time, small hand tools, temporary shelter, latrines, washbasins, toothbrushes and toothpaste, mattresses, first aid and fire-fighting equipment. Though small, these rapid response donations were to areas very much in the public eye. The smallest rapid response donation was for $1,684 and went to the Fire Department of the City of Corinto, the site of an important Nicaraguan harbor. The two largest OFDA donations were for $20,456 and $33,322 for the Mayor of Posoltega's Office and to a temporary shelter site housing 1,200 displaced

families, *Nueva Vida* (New Life), in Managua. Posoltega was the municipality where massive landslides from Las Casitas Volcano buried entire communities, killing over 2,000 people and leaving upwards of 900 families homeless. Nueva Vida was an easily accessible site close to the capital city of Managua commonly visited by VIP's from the US, including Vice-President Al Gore's wife, Tipper.

The Nicaraguan Civil Defense received $419,300 in OFDA-supplied materials, including water containers and tanks, blankets, and plastic sheeting material for temporary housing. Local items purchased by USAID/Nicaragua included fuel, tools, chlorine and emergency supplies distributed to 1200 families, primarily through the Red Cross. Boots, blankets, raincoats, chlorine and water containers were distributed through the Social Action Secretariat (SAS). These two OFDA donations totaled $161,900 and $13,100, respectively, and the combined $175,000 also covered emergency relief purchases in conjunction with VIP visits from the US.

During the mitigation phase, OFDA obligated more than $6 million to fund nine grants aimed at addressing emergency agricultural support, emergency health and emergency and transitional shelters (*Table 4.4b*). With regard to agriculture and food security, Hurricane Mitch arrived just at the time when much of the country was about to harvest the second and largest crop (*la postrera*). An estimated 30% of food crops (rice, beans and maize) were lost because of Mitch and much of the seed stock for future plantings was destroyed. The storm also washed away fertile topsoil, exacerbated by poor vegetative ground cover due to rampant deforestation.

Food security in the aftermath of Hurricane Mitch, especially for subsistence level farmers and their families, was a priority. The high amounts of rainfall left residual moisture in the soil, which presented an opportunity for promoting the planting of a third crop, or *apante*. However, local seeds were in short supply and were of poor quality. An additional constraint was that two of the three major contractors in the USAID/Nicaragua's agricultural portfolio, Development Alternatives, Inc. (DAI/Promesa) and Winrock International were new projects, less than one month old, and had not yet begun to initiate field activities.

Development Alternatives, Inc. (DAI/Promesa) received a $600,000 OFDA grant in mid-January to import hybrid maize and bean seeds, treat them and distribute them to 10,000 marginalized farmers. Each farmer was given a package consisting of 25 pounds of hybrid seeds (enough to plant 1 mz. of maize and 1-1/2 mz. of beans), one bag of starter fertilizer, one bag of urea and $30 cash. Sub-grants to local NGOs identified farmers and distributed the packages. The cash was part of an OFDA grant to the International Federation of the Red Cross (IFRC) who distributed it in conjunction with DAI/Promesa sub-grantees.

Winrock Intl. was awarded $550,000 for the purchase and distribution of non-traditional crop seeds and agricultural implements such as garden tractors, wheelbarrows, shovels, rubber boots, machetes, and saws. World Relief received $500,000 for the purchase and distribution of basic grain seed as well as larger agricultural implements such as coffee depulpers, barbed wire for fencing, irrigation motors/supplies and hand tools. The Alistar Foundation was awarded $200,000 for the provision of food and agricultural tools in BOSAWAS, a hard-hit yet underserved area of the country.

In the health sector, PAHO, with OFDA support, procured and distributed emergency medicines and medical supplies. The primary focus was to contain and prevent imminent outbreaks of disease. Although chlorine was available locally and widely distributed as part of the emergency response, contaminating debris nonetheless found its way into local water sources. A manufacturer of locally assembled household water filters, ENVASA, received $400,000 in OFDA funds to produce 4,000 water filters to give beneficiary families access to safe water and to prevent the spread of waterborne diseases. Clarke Mosquito Control received $500,000 to distribute 29,000 mosquito nets impregnated with permethrine, an approved compound that both repels and kills insects, especially the night-biting mosquito that spreads malaria**.**

In the shelter sector, the International Federation of the Red Cross (IFRC) was awarded a $1.65 million grant to provide transitional shelter to approximately 3,000 families left homeless after the hurricane. Program participation criteria included demonstrated loss of home in the designated community and a commitment to provide manual labor for construction. IFRC member societies, as well as CARE, Ayuda en Acción, Popul-Na and Jubilee House were sub-grantees providing transitional shelter to 22 targeted communities.

Effectiveness of OFDA's Disaster Response in Nicaragua: One of the most noteworthy outcomes of OFDA guidance were the successful negotiations that resulted in the arrival of 1700 US military troops in November of 1998, and which has led to discussions between the U.S. and Nicaragua military to establish permanent, ongoing relations. Another very important result of OFDA intervention was the establishment of guidelines for the use of helicopters in relief efforts. Like Honduras, Nicaragua was deluged by a steady stream of VIPs, U.S. politicians, reporters and others making demands on the Mission for visits to hurricane affected sites. Early on, the Ambassador and OFDA made it clear that all helicopter space was to be used for carrying relief supplies and passengers would be accepted only if there were human resource needs for distributing the emergency relief cargo.

OFDA-contracted airlifts delivered 825,000 lbs. of emergency food, medicines and supplies that had no other way of reaching isolated communities. A total of 679 rolls of plastic sheeting provided temporary shelter to the homeless in 20 targeted communities and basic water sanitation and health services accompanied many, if not most of the provisional shelters. The DART teams were particularly active at the airport, assisting in needs assessments and programming relief lifts. OFDA played a particularly critical coordination role, thwarting what could have been a complicated chain of command and decision-making problems among several parties including the Vice-President's National Emergency Committee, Nicaragua and U.S. military, Nicaragua Civil Defense, and, the US Embassy Disaster Mission team.

OFDA-supported interventions were very successful in the agricultural sector. Since most of the farmers' seed stocks were lost or damaged, hybrid seeds, from the same germplasm base as traditional varieties, were introduced with favorable results. Despite bureaucratic red tape at the Ministry of Agriculture (MAG-FOR), which tried to delay the distribution and planting of the hybrid, a process that would normally have taken a minimum of 4 years was accomplished in a matter of months. Agricultural production in Nicaragua was sufficiently high that food prices were driven down by the first post-Mitch harvest.

An estimated 15,000 subsistence farmers using the OFDA-provided hybrid seeds achieved 50-100% increases in yield and similar reductions in plant diseases in the first and in subsequent post-Hurricane Mitch harvests. During the same period, about 200 small, hybrid maize seed-producers emerged with 1,500 small, hybrid bean seed-producers expected to emerge this year. The national market demand for hybrid maize doubled in one year and is expected to double again in year 2000. Although initially hesitant, The Ministry of Agriculture (MAG-FOR) has opened up to the idea of introducing hybrid seeds over open pollination seed and is allowing beneficiary farmers the space to try new methods and decide what's best for themselves.

In the health sector, OFDA funding to PAHO benefited an estimated 1,650,000 people in 8 Departments (Decentralized Health Areas, or SILAIS) over a six-month period. PAHO activities were complimented with the distribution of impregnated mosquito nets 29,000 households in targeted malaria areas; and, the distribution of home water filters to 40,000 families in the 20 municipalities most affected by the hurricane.

Containment of the spread of hurricane-related infectious diseases was accomplished despite initial increases in reported outbreaks. Reported cases of cholera, for example, initially rose 10-fold, from 10 cases to upwards of 100 cases per month in the two months following Hurricane Mitch. Although other life-threatening diseases were similarly on the rise, with OFDA support, implementing partners were able to contain these diseases. The incidence of leptospirosis, diarrhea, acute respiratory disease, cholera and malaria were kept below or at pre-hurricane levels. The incidence of dengue in 1999 increased however, since a day-biting mosquito, making prevention difficult, transmits it.

Within 90 days, PAHO had purchased medicines to control outbreaks, distributed them to the SILAIS (decentralized health system, Ministry of Health) where they were separated into packages. At the municipal level, inventories were recounted and distributed to municipal health centers, often in the widely publicized presence of the USAID Mission Director, SILAIS Director and the Mayor. A PAHO tracking system compared numbers of medical visits and commodity disbursements against inventory stocks, which revealed high preventive and curative coverage for the population. As a result of this experience, MINSA and PAHO alike have a full time person working to develop emergency response and contingency plans for the health sector.

Activities in the shelter sector were slow to begin. Construction of shelters with wood and zinc roofing did not begin until February of 1999. The first grant disbursement was made on May 7 and the first construction began in mid-May in Nueva Segovia (Dutch Red Cross) and in Matagalpa (French Red Cross). By July 21, approximately 15% of the shelters were built. A condition that the Mission Director made prior to accepting shelter activities was that OFDA provide one full-time person dedicated only to shelter, a condition that was reportedly not long lasting. Land tenure complexities also presented formidable challenges that the Mission is not prepared to handle with its current staffing.

Table 4.4b: OFDA Support in Nicaragua

OFDA Partner	Type of Assistance	Targets/ Beneficiaries	OFDA Funding Level (US$)
Fundación Alistar	Provision of food and agricultural tools in BOSAWAS	Approx. 40,000 people	200,000
World Relief, Corp.	Procurement / distribution of agricultural tools and equipment	2500 families 350 coffee depulpers barbed wire for fencing irrigation motors and supplies hand tools	500,000
Clarke Mosquito Control	Procurement / distribution of mosquito nets, treated with repellent	50,000 families	500,000
Winrock Inter-national	Procurement / distribution of tools, equipment and seeds through 13 PVOs and NGOs: CARE; TechnoServe; APENN; UPANIC; CRS; UNAG; UNICAFE; FUNDECI; PAGIJNO; CLUSA; AGRODESA; Hogar del Niño; ASOCAFEMAT.	4,000 small farmers: Tools: $456,378.50 Seeds: $ 84,444.61 68,000 imported seeds 4,900 machetes 4,008 pr. Rubber boots 500 rakes 3,800 shovels 41small Garden tractors 1,194 wheel barrels 2,800 hammers saws, barbed wire	550,000
PAHO	Procurement of medicines and medical supplies Distribution by Ministry of Health (CIPS/MINSA)	8 Regions (SILAIS) 275,000 people x 6 months = 1,650,000 people	850,000 600,000
Development Alternatives Inc.	Implementation of an emergency bean seeds, distribution through International Federation of the Red Cross (IFRC). Production program with small farmers. Used new hybrid variety of seeds: High yield, plague resistant and of same germ plasma base as traditional varieties lost during the hurricane.	10,000 of most marginal farmers received: 25 lb. Seeds, enough to plant 1 mz maize and 1/2 mz. beans 1 bag starter fertilizer 1 bag urea $30.00 cash 200 small seed producing farmers received technical assistance	600,000
ENVASA	Manufacture and distribution of water filters	40,000 families in 20 most affected municipalities	400,000
CARE	Cash for Work: Tools for tertiary road rehabilitation	2,000 workers 65 km. of tertiary roads repaired	155,000
IFRC	International Federation of the Red Cross (IFRC) Temporary Housing by Dutch and French Red Cross, CARE, Ayuda en Acción, Popul-Na and Jubilee House	At least 550 transitional houses.	1,656,000
16 Local implementing partners	Rapid Response: Building materials, medicines, training materials, radio	11 priority municipalities	245,000

OFDA Partner	Type of Assistance	Targets/ Beneficiaries	OFDA Funding Level (US$)
	commercials, small hand tools, temporary shelter, latrines, wash basins, toothbrushes and toothpaste, mattresses, first aid equipment, fire-fighting equipment.		
USAID/NIC	Local purchases, distributed through the Red Cross	1,200 families Fuel, tools, chlorine, emergency supplies	161,900
USAID/NIC	Local purchases, distributed through the Social Action Secretariat (SAS)	Boots, blankets, raincoats, chlorine, water containers	13,100
Civil Defense	OFDA commercial airlift of supplies distributed through the Nicaraguan Civil Defense	15,500 5-gallon water containers 14,000 blankets 679 rolls plastic sheeting 3- 10,000 liter water tanks	419,300
DOD	Food, medicine and supply airlifts	825,000 lbs. of supplies airlifted	1,200,000
Total			8,050,300

Lessons Learned and General Observation: Nicaragua and Honduras

In compiling the data for this case study, a total of 150 people were interviewed. According to the interview data, although hurricanes and flooding are common in the region, there was general agreement that no one was prepared for a disaster of the magnitude of Hurricane Mitch. There was overwhelming consensus however, that ***OFDA did an outstanding job responding to the disaster.*** Although there were initial problems in coordination and compensation for the unpredictable course that Hurricane Mitch took, the end result was that OFDA's efforts saved lives, alleviated human suffering and mitigated the damage caused by the hurricane.

Both in Honduras and Nicaragua, nearly all those interviewed were favorably impressed with OFDA's operations. Surprisingly, before Mitch struck, very few people knew much about OFDA or what role it plays in emergency response. This lack of clarity about OFDA's role had frustrated many mission staff members. Mechanisms, plans and procedures were in place at the time of the hurricane, though respondents conceded that their importance had not been fully understood nor appreciated by the missions until after the emergency hit. A major recommendation to BHR from USAID mission staff is that OFDA provide ongoing training to mission staff on disaster preparedness and response. This would include periodic review and updating of Mission Disaster Response Plans, orientation on the role of OFDA, assessing damages, reporting and coordination mechanisms.

Although the overwhelming consensus was that OFDA management of the disaster response was outstanding, the assessment identified several preparedness and management issues that applied to both Honduras and Nicaragua and are summarized below:

Mission Disaster Response Plans. All missions have Disaster Response Plans, which spell out clearly defined roles of the mission and their interface with the host-country emergency committee and Civil Defense (as well as the warden and radio systems designed to safeguard US Citizens). Most are 2 - 4 years old and had not been updated by the missions nor reviewed prior to the emergency. The Mission Disaster Response Officer (MRDO) is responsible for the update and dissemination among mission staff. Emergency and Disaster Response Plans are not normally a high priority in Missions.

OFDA Guidance Cables. OFDA guidance cables are issued periodically. OFDA had recently issued a Hurricane Season Guidance Cable. OFDA had also produced a 10 page Quick Reference Guide, which has been updated periodically since 1992. It spells out OFDA's mandate and lists key considerations when an emergency strikes. Perhaps one of the lessons learned is that thick documents are seldom read and their contents rarely digested. It is recommended that the Quick Reference Guide be distributed to everyone in the missions and key mission staff should be trained in emergency management, especially the MRDO and Mission Directors.

OFDA Host-Country Training. OFDA has provided Emergency and Disaster Management training, mostly at the municipal level, for 5,000 people in Honduras since 1987, and to 150 trainers of trainers in Nicaragua since 1993. The training plans and contents generally received high marks for quality among those who have looked at and/or participated in them. Although it was assumed that the response on the municipal level was improved due to training, no one knew who was trained, what their skill sets were or how to access them when the emergency hit. Although host-country institutions claim that they do keep track of those trained, the databases that do exist simply are not operational at the time an emergency strikes.

The recommendation is to design, systematize, update and monitor databases for those who have received training, their skill sets as well as their location and contact information. This database could serve to improve the level of preparedness by identifying gaps in training needs at the operational level (i.e. municipalities) based on geographic vulnerability and high-risk areas as well as at a host country central coordination level. Performance indicators should be established and measured to evaluate the success of training programs.

A recent assessment of OFDA training suggests that there are two innate problems with training. This first is that host-country institutions are generally weak and unstable. Conservative estimates suggest a 30% turnover rate among those trained in a 2-year period. Secondly, OFDA training is aimed at mid-level staff that initially feel empowered to bring about change in their organizations. However, empowerment for change quickly wanes. It is often met with resistance by superiors who more often than not are political appointees, with little or no management experience, and not likely to make maximum use of institutional human resource capabilities. A recommendation would be to hold short, executive training courses designed to sensitize decision-makers for empowering and supporting trained staff.

Host-Country Management. Institutions designed to handle emergencies, like. COPECO in Honduras and Civil Defense in Nicaragua, were largely made up of military and retired military personnel. In both cases, these institutions quickly broke down when faced with a disaster of the

scope and magnitude of Mitch. In their place, individuals from the private sector who possessed strong management capabilities and capacities emerged at the forefront by Presidential decree.

In Honduras, a private businessman came forward and began to organize the national disaster response, first informally, but within 72 hours the National Emergency Commission (CONE) made it official. Private sector infrastructure and management provided a command center with 30 phone lines, faxes and computers. This "nerve center" provided data, information management and coordination, however it was not involved in actual response operations.

No military personnel were named to the management structure, leaving the military to work on its own and in international teams. In fact, the military had set up an independent Command and Operations Center (COC), and included foreign military representatives, with the exception of the United States. Private sector entrepreneurs assumed managerial responsibilities while operational responsibilities were left to the military. COPECO was thus sidelined twice, first by CONE and then again by COC. After Mitch response requirements began to wind down, both CONE and COC disappeared leaving the discredited COPECO in place.

More than any other country in Central America, the history of Nicaragua is a chronicle of natural disasters. The President of Nicaragua was criticized by many for not calling a state of emergency until early November, after the hurricane had struck, however the reason for the reluctance was clear: Under Nicaraguan law, freedom of the press and many citizen rights are waived and martial law comes into effect. The national and international repercussions were great.

The Nicaraguan Civil Defense was overwhelmed by Hurricane Mitch and was subsequently marginalized organizationally. In its place, the Vice President, who is recognized as representing private sector initiatives and is a strong manager himself, was named to head the National Emergency Committee (CNE). An operations center was set up at the airport, run managerially by the CNE and operationally by the military. Currently, the Vice-Presidency continues to spearhead emergency planning and preparedness while the Nicaraguan Civil Defense remains marginalized. In fact, the Vice-President's Office now has full-time staff for Prevention and Mitigation and has already introduced legislation in disaster prevention, mitigation and attention (Ley Creadora del Sistema Nacional de Prevención, Mitigación y Atención de Disastres).

In both Honduras and Nicaragua, when the emergency hit, parallel structures emerged that were headed by high-level management persons, trusted by the president and in a position to exercise influence and leadership. Operational disaster response was largely under military control. Prevention and mitigation issues were not a high priority before the disaster struck.

Prevention and Mitigation. Hurricane Mitch provided some other important lessons, most of which are related to prevention and mitigation issues including the following:

- *Early warning systems.* USGS had established stream flow gauges in Honduras, provided host-country training and had even developed a process with host country institutions that established early detection, as an initial step, all the way to public alert systems. Human error and institutional weakness short-circuited the system at the time of

Hurricane Mitch. Nicaragua had no systems at all. These systems can and should be functioning to alert the population, provide public messages and mobilize emergency resources as part of an effective, well-articulated and integrated network.

- *Vulnerability mapping and zoning.* Most hurricane-related deaths occurred as a result of mudslides on highly sloped lands in Tegucigalpa and on the Las Casitas Volcano in Nicaragua. Precarious homes built on highly sloped plots were a recipe for disaster. In both countries, vulnerability mapping and zoning and appropriate land use policies could have averted these deaths.

- *Emergency information databases.* In addition to the people with emergency training and skills, other assets also need to be tracked. In both Honduras and Nicaragua, airlift support was delayed or misguided when no one was able to produce the coordinates for critical targets such as a Title II food warehouse or a small indigenous community not marked on standard maps. Automated mapping capability and up-to-date database information is a simple solution.

- Preparedness training. USAID Missions and PVOs ultimately took on a heavy load, both in terms of coordination and operations, even though there was insufficient preparedness training. Their abilities to perform effectively in a disaster situation would be greatly enhanced by preparedness training. Additionally, efforts focused on strengthening municipal community networks and vulnerability assessments as part of USAID project designs, would bring added value especially in disaster prone nations.